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THE LANCET.

J. H.

Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology, Chemistry, Pharmacology, Public Health, and News.

PRICE 7d.; POST FREE, 7

No. II. OF VOL. II., 1892.
No. 3593.

LONDON, SATURDAY, JULY 9, 1892.

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NO. III. OF VOL. II., 1892.
No. 3594.
LONDON, SATURDAY, JULY 16, 1892.
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THE LANCET.

A Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology, Chemistry, Pharmacology, Public Health, and News.

No. X. of Vol. II., 1892.
No. 3601.
LONDON, SATURDAY, SEPTEMBER 3, 1892.
Price 7d.; Post Free, 7½d.
Pp. 120 × 96.

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A Journal of British and Foreign Medicine, Surgery, Obstetrics, Physiology, Chemistry, Pharmacology, Public Health, and News.

No. XI. OF VOL. II., 1892.
No. 3602.

LONDON, SATURDAY, SEPTEMBER 10, 1892.

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LECTURE III.

Chemistry of Uratic Precipitation in Gout.

Mr. President and Gentlemen,—The chemistry of gout in its full extension embraces changes of the most diverse character in the blood and tissues. I do not propose to deal with the subject in this comprehensive sense, but to confine myself entirely to the relations of gout with uric acid. By far the most characteristic feature of gout is the formation of chalk-like deposits in certain parts and tissues of the body, especially in and about the joints. The essential component of these deposits is the bi-urate of sodium, and it is always present in the crystalline condition. The crystals are distributed through the implicated tissue in the form of delicate needles aggregated into tufts, bundles, and stars. The arthritic incidents of gout may be said, not improperly, to be simply incidents pertaining to the precipitation of these crystals in the structures of the joints. Without the occurrence of this precipitation the gouty paroxysm could not take place, nor could the more chronic changes in the joints, with their train of attendant symptoms, follow after. Were it possible for us to keep the sodium bi-urate in a state of solution in the bodily fluids, the clinical portraiture of gout would be completely transfigured. Whatever other manifestations of the gouty constitution we might have to deal with, we should not have to contend with this most grievous outcome of the diathesis. The evidence brought forward by Sir Alfred Garrod on this point appears to me to be conclusive, and justifies the deduction that the deposition of the crystalline bi-urates is not merely a concomitant, but is the actual cause of the joint troubles of gout. This view is now pretty generally accepted, and forms the basis of most of our plans of treatment in the management of the gouty state. Hence it is that the history and chemical properties of sodium bi-urate have acquired a capital importance in the pathology of gout. We are interested to know how this compound arises in the body from nascent uric acid, what are its relations of solubility in diverse media and more particularly in the blood and lymph and synovia; what are the factors which tend to determine its precipitation in the body or tend to prevent its precipitation.

I have before adduced evidence to show that the normal or physiological condition of uric acid in the body is that of a quadri-urate and that any departure from this condition must be regarded as pathological. In the last lecture I traced the changes which the quadri-urate undergoes in the urine and which lead up to the separation of uric acid in the free state as gravel and urinary sediments. In the present lecture I shall endeavour to trace the converse changes which the quadri-urate undergoes in the blood and lymph and which lead up to the formation and deposition of sodium bi-urate in the tissues. In order to effect this purpose I propose, first, to examine the solubility of the material of gouty concretions—namely, sodium bi-urate—in various media: in the serum of the blood, in synovia and in diverse saline solutions; then to examine and compare the behaviour of free or uncombined uric acid with the same media. Upon the basis of the results thus obtained I shall be able to formulate a general theory of uratic precipitation.

Solubility of Sodium Bi-urate in Diverse Media: (a) in Water, (b) in Blood-serum and Kindred Media, (c) in various Saline Solutions.

(a) *Solubility of Sodium Bi-urate in Water.*—When sodium bi-urate is digested at blood heat with pure water it enters pretty freely into solution. Careful experiments indicated that the solubility of sodium bi-urate in distilled water at 100° F. approximated very closely to the proportion of 1 part in 1000. This was taken as the standard of comparison in estimating the solubility of this compound in all other media.

(b) *Solubility of Sodium Bi-urate in Blood-serum.*—Sodium bi-urate is very sparingly soluble in the serum of the blood, as is shown by the following experiments. Sodium bi-urate in excess was treated with blood-serum of the horse and pig in corked phials. The phials were placed in the warm chamber and frequently agitated. After a digestion of twelve hours the supernatant serum was filtered twice through a threefold filter.[1] The filtrate thus obtained, when acidulated with acetic acid, gave not the slightest precipitation of uric acid. Nevertheless, some slight solution had taken place. For when a portion of the filtrate was evaporated on a watch-glass in the warm chamber to near dryness, needles of bi-urate could be readily detected in it under the microscope, or when the filtrate was tested with Garrod's thread experiment crystals of uric acid were always found sprinkled on the thread. It thus appears that sodium bi-urate, although very sparingly soluble, is not absolutely insoluble in blood-serum. From a number of comparative experiments I estimated that at blood heat the amount dissolved was probably about 1 part in 10,000.

The behaviour of sodium bi-urate with synovia corresponded exactly with its behaviour with blood-serum; only minute traces went into solution. It was ascertained by direct experiment that the behaviour of uric acid and its compounds with blood-serum depended entirely on the saline ingredients contained in it and had no relation to its albuminous constituents. When the serum was deprived of its salts by dialysis, it was found that it reacted with uric acid and the urates like simple water; and no doubt the same rule holds good with regard to all the bodily fluids. An examination of the saline components of these fluids is therefore of prime importance in the study of the chemistry of gout. The serum of the blood and its derivatives, lymph and synovia, although differing considerably from each other in their albuminous elements, are almost identical in regard to both the quantity and the quality of their saline constituents. These latter are remarkable for the immense preponderance of sodium salts. The subjoined table exhibits the average proportion of the several saline ingredients contained in blood-serum.

Table XI.—*Showing the Percentages of the several Salts in Blood-serum.*

Sodium chloride	0·50 per cent.	Sodium salts=0·73 per cent.
Sodium bicarbonate ..	0·20 per cent.	
Sodium phosphate ..	0·03 per cent.	
Potassium salts	0·06 per cent.	All other salts=0·11 per cent.
Calcium salts Magnesium salts ..	0·05 per cent.	

The fact just mentioned—namely, that the reactions of uric acid and the urates with the bodily fluids depends exclusively on the saline ingredients contained in them—suggested the idea that advantage might be taken of this circumstance to facilitate the chemical study of gouty precipitation. If a solution in water of the salines of blood-serum were prepared, such a solution might be expected to behave with uric acid and the urates like the serum itself; and this proved on trial to be the case. An examination of the above table shows that the salts of sodium exceed the aggregate of all the other salts of blood-serum in the proportion of seven to one. Practically, for the purpose in view, the saline basis of blood-serum might be considered as consisting essentially of sodium chloride and sodium carbonate, so greatly do these preponderate over the sum of all the other salts put together. From these particulars it may be deduced that a solution in water containing chloride and bicarbonate of sodium in the proportion specified in the table would be a fairly exact representation of blood-serum, in so far as its saline ingredients are concerned. It was found experimentally that such a solution reacted with uric acid and the urates in the same manner as blood-serum itself and in the same manner as a solution comprising all the salines of the serum in their due proportions as ascertained by the best analyses. Accordingly a solution was prepared in conformity with these indications, and was designated as the *standard solvent* or *standard solution.* Its composition was as follows:

Table XII.—*Showing the Composition of the Standard Solvent.*

Sodium chloride	0·5 gramme.
Sodium bicarbonate	0·2 gramme.
Distilled water	100 cubic centimetres.

This solution was much used in the present research, especially as a pioneer. For experimental purposes it possessed certain advantages over serum and synovia. Its composition could be more easily modified by additions to or subtractions from it; the quantities of uric acid and urates taken up by it could be more exactly estimated; and its limpidity permitted the first signs of precipitation to be more readily detected. The behaviour of uric acid and the urates with this solvent was studied in detail under varying conditions of temperature and time and with varying modifications of its composition. The results thus obtained were afterwards collated with those obtained with blood-serum in similar circumstances and with parallel modifications of its composition. The standard solvent was found to behave with sodium bi-urate in exactly the same way as blood-serum. Only the minutest traces of the bi-urate were taken up by it at 100° F. Such a solution, when carefully filtered, gave no precipitate of uric acid when treated with hydrochloric acid.

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[1] The needles of sodium bi-urate are so minute and delicate that some of them pass through the filter unless the most stringent precautions are taken.

(c) *Solubility of Sodium Bi-urate in Saline Solutions.*—The influence of different saline substances on the solubility of sodium bi-urate has not only a pathological but also a therapeutical bearing. Saline substances are largely used in the treatment of gout, both in the guise of pharmaceutical preparations and as constituents of mineral springs, under the belief that they promote the holding in solution of the peccant bi-urate, and thereby hinder its deposition as gouty concretions and even favour the resolution of concretions already formed. It is therefore of practical interest for us to know what kinds of salts (if any) act favourably, and what kinds act unfavourably, in this respect. A large series of experiments were undertaken with a view of elucidating this point and the deductions indicated are, I venture to think, of considerable interest. The salts of which the effects were investigated were those of sodium, potassium, calcium magnesium and ammonium. The experiments were carried out in the following manner: Solutions of known strength of the salts to be tested were prepared in distilled water. These solutions were digested at blood heat with excess of sodium bi-urate in corked flasks. The flasks were then placed in the warm chamber and maintained at 100° F. with frequent agitation for five hours. The supernatant liquid was then carefully filtered off. In some cases repeated filtration through a threefold filter was required in order to obtain a perfectly transparent product. Finally, the percentage of uric acid in the filtrate was estimated and calculated as sodium bi-urate. The results thus obtained are exhibited in the following tables. The solubility of the bi-urate in distilled water is placed at the head of each table as a standard of comparison.

Salts of Sodium.—The effects of the following soda salts were investigated—namely, the bicarbonate, chloride, sulphate, phosphate and salicylate. All these salts showed a powerful influence in diminishing the solvent power of the medium on the sodic bi-urate, and the adverse influence increased progressively up to a certain point with the increasing strength of the solution.

TABLE XIII.—*Showing the Influence of Sodium Salts on the Solubility of Sodium Bi-urate, at 100° F.*

Solvent.	Sodium bi-urate dissolved.*
Water	1·10 per 1000
Water containing:—	
0·1 per cent. sodium bicarbonate	0·[illegible]0 "
0·2 " " "	0·24 "
0·3 " " "	0·20 "
0·5 " " "	0·13 "
0·7 " " "	0·09 "
1·0 " " "	0·04 "
0·1 " sodium chloride	0·42 "
0·2 " " "	0·20 "
0·3 " " "	0·16 "
0·5 " " "	0·1 "
0·7 " " "	[illegible] "
1·0 " " "	0·06 "
0·1 " sodium sulphate (crystals) ..	[illegible] "
[illegible] " " "	[illegible] "
[illegible] " sodium salicylate	[illegible] "
[illegible] " " "	[illegible] "
[illegible] " " "	[illegible] "
[illegible] " sodium phosphate (crystals) ..	[illegible] "
[illegible] " " "	[illegible] "

than the other sodium salts—more than the carbonate, but especially more than the sulphate, phosphate and salicylate. This difference is, however, solely due to the larger percentage of the metal in the chloride. When solutions were prepared of these several salts in such proportion that the percentage of sodium in them was constant, their effect was found to be as nearly as possible equivalent.

Salts of Potassium.—Solutions of the following potassium salts were subjected to examination—namely, bicarbonate chloride, phosphate and sulphate. The results stand in the strongest contrast with those obtained with sodium salts.

TABLE XIV.—*Showing the Influence of Potassium Salts on the Solubility of Sodium Bi-urate at 100° F.*

Solvent.	Sodium bi-urate dissolved.
Water	1·00 per 1000
Water containing:—	
0·1 per cent. potassium bicarbonate	0·97 "
0·2 " " "	1·00 "
0·3 " " "	1·00 "
0·5 " " "	0·97 "
0·7 " " "	1·02 "
1·0 " " "	0·98 "
0·1 " potassium chloride	0·96 "
0·3 " " "	1·01 "
0·5 " " "	1·10 "
0·1 " potassium phosphate	1·01 "
0·5 " " "	1·00 "

The experiments tabulated indicate that the salts of potassium exercise no influence neither for nor against on the solubility of the bi-urate. The results came out, within the necessary limits of error, precisely as with distilled water. The bicarbonate and phosphate, which have an alkaline reaction, behaved exactly in the same way as the chloride, which has a neutral reaction. The varying strengths of the solutions made not the least difference.

The difference between solutions of sodium salts on the one hand and those of potassium salts and distilled water on the other is so conspicuous that it is easily perceived without any resort to quantitative analysis. A 0·7 per cent. solution of any of the sodium salts (reckoned as anhydrous) dissolves so little of the bi-urate that saturated solutions made at blood heat show no precipitation of uric acid when treated with hydrochloric acid, or at most only a few scattered crystals at the end of forty-eight hours; whereas similar solutions made with potassium salts, or with distilled water, become almost at once milky when treated with hydrochloric acid, and in a few minutes throw down an abundant deposit of uric acid.

Calcium, Magnesium, and Ammonium Salts.—The addition of calcium, magnesium, and ammonium salts diminished the solvent power of water on sodium bi-urate. The subjoined table exhibits the results obtained with these three classes of salts.

TABLE XV.—*Showing the Influence of Calcium, Magnesium and Ammonium Salts on the Solubility of Sodium Bi-urate at 100° F.*

Solvent.	Sodium bi-urate dissolved.
Water	1·10 per 1000
Water containing:—	
0·1 per cent. calcium sulphate	0·65 "
0·2 " " "	0·44 "
0·5 " calcium chloride	0·27 "
0·1 " magn. sulphate (crystals) ..	0·59 "
0·1 " magnesium chloride	0·57 "
0·5 " " "	0·64 "
0·1 " ammonium chloride	0·75 "
0·2 " " "	0·50 "
0·3 " " "	0·42 "
0·5 " " "	0·25 "

The table shows that calcium salts exercise a strongly deterrent effect on the solvent power of water on sodium bi-urate, approaching in this respect but not equalling the sodium salts. The magnesium salts, on the other hand, although exhibiting a distinctly deterrent influence, approach more nearly to the indifferent position of the potassium salts. The salts of ammonium were found to stand in an intermediate position between those of calcium and magnesium.

Reviewing these results as a whole, the following [illegible] in regard to the solubility of sodium bi-urate in [illegible] at the temperature of the body. (1) [illegible] (2) [illegible] lime, magnesia and ammonia have also a deterrent effect, but slighter than that of salts of soda. Salts of potassium have no effect either way.

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* The estimations of the uric acid [illegible] were generally made [illegible] with hydrochloric acid. When the [illegible] was too small for weighing, it was estimated by a [illegible]

BEHAVIOUR OF URIC ACID WITH BLOOD-SERUM AND THE STANDARD SOLVENT AND WITH SYNOVIA.

An examination of the behaviour of free or uncombined uric acid with blood-serum and kindred media is a necessary part of the study of the chemistry of gout. It is only by knowledge thus gained that we can hope to elucidate the mode in which sodium bi-urate originates in the body, and learn something of the conditions which control its precipitation in the gouty system. The reactions of free uric acid with blood-serum and synovia and with the standard solvent and its modifications are of quite a different kind from those of sodium bi-urate with the same media. In the latter case there is simply an act of solution. The bi-urate is taken up substantially unchanged, and the questions we had to decide were as to its degrees of solubility in the several menstrua. But when free uric acid is brought into contact with blood-serum and kindred media, there occurs not merely an act of solution, but a series of chemical reactions. Uric acid first enters into combination with the bases contained in the media; these new compounds then pass into solution, and subsequently undergo certain ulterior changes which it is of much interest to follow.

Behaviour of Uric Acid with Blood-serum and the Standard Solvent.—When uric acid is digested at the temperature of the body with blood-serum or with the standard solvent it passes into solution in combination with a base. In the course of an hour, with due agitation, the liquids will, on analysis, be found to have taken up uric acid in the large proportion of about 1 part in 500. The chemical and solvent power of these media on uric acid depends on the sodium carbonate contained in them and not on the sodium chloride, for a solution of the latter salt alone has no more action on uric acid than pure water. On the other hand, a solution containing sodium bicarbonate alone has precisely the same action on uric acid as when it is associated, as in the serum and standard solvent, with sodium chloride. The question now arose, What is the combination in which uric acid enters into solution? It could not be bi-urate, because crystalline sodium bi-urate is almost insoluble in these media; nor could it be neutral urate, because the neutral urates cannot arise in the presence of carbonates. The presumption remained that the combination is a quadri-urate. It was, however, highly desirable to have direct proof. This was obtained by taking advantage of the great difference of solubility of quadri-urates at different temperatures. The following experiment appears to be conclusive on this point. Uric acid in excess was digested at blood heat with a 1 per cent. solution of sodium bicarbonate under constant agitation for twenty minutes. The filtered product was rapidly cooled on ice. It threw down a copious amorphous deposit, which when duly washed on the filter with rectified spirit to free it from adherent carbonate gave the characteristic reaction of quadri-urate—that is to say, it was decomposed by water with abundant emission of uric-acid crystals. A corresponding experiment with a 0·5 per cent. solution of potassium bicarbonate yielded exactly the same results.[2] We may therefore conclude with certainty that when uric acid comes into contact with blood-serum or the standard solvent it enters into solution in the first instance as a quadri-urate; but the process does not stop here. The quadri-urate gradually takes up an additional atom of base and is thereby converted into bi-urate and the bi-urate thus formed is, after some delay, eventually precipitated in the crystalline form.

In order to bring this remarkable succession of events more vividly before your minds I will relate the particulars of two actual experiments.

Experiment 1.—Uric acid in excess was digested, with frequent agitation, in the standard solvent at 100° F. for twenty minutes. The excess of uric acid was then filtered off and the clear solution was placed in a cork phial in the warm chamber. It remained unaltered for two days. On the third day it began to precipitate and on the fourth day a copious deposition of crystalline bi-urate took place. On the fifth day the process was completed and the supernatant liquor was found on acidulation to contain only traces of uric acid.

Experiment 2.—Blood-serum of the horse was digested at 100° F. with excess of uric acid for fifteen minutes with constant agitation. It was then filtered and placed in a corked phial in the warm chamber. In about twelve hours the serum, previously clear, began to lose transparency and fine needles of bi-urate were detected in it with the microscope. On the next day copious precipitation took place. On the fourth day the process seemed to be completed and the supernatant serum was found to be almost free from uric acid. It was impossible not to be struck with a certain rough resemblance between the results observed in these experiments and the phenomena of the gouty paroxysm. In the gouty subject it is assumed that the blood becomes more and more impregnated with uric acid until, after a certain period of incubation has been accomplished, sudden precipitation of sodium bi-urate takes place in and about the joints, and the "fit of the gout" is declared. Then follows a process of recovery, with restoration of the blood to a purer state—that is, with a lessened impregnation of uric acid. In the artificial counterfeit we observe a similar succession of events. First, impregnation of the medium with sodium quadri-urate; secondly, a period of incubation or maturation, during which the quadri-urate passes into bi-urate; thirdly, somewhat sudden precipitation of sodium bi-urate in the crystalline form; and lastly, restoration of the medium to comparative purity.

Behaviour of Uric Acid with Synovia.—It is a marked peculiarity of the uratic phenomena of gout that the deposits occur most commonly in and about the joints; and it was a matter of interest in the present inquiry to ascertain how synovia behaved when impregnated with uric acid; and especially whether synovia, as compared with blood-serum and when impregnated to an equal degree, had the property of retarding or hastening the precipitation of bi-urate. This part of the investigation is hampered by the difficulty of obtaining an adequate supply of materials, and my information thereupon is scanty. I have so far only been able to make satisfactory experiments with synovial fluid drawn from the hip of the ox. From this source about a couple of ounces may be obtained from the two joints. Butchers tell me that the synovia from the hip is thinner as well as more abundant than that obtained from the other joints. On two occasions I was able to examine and compare the synovial fluid of the hip-joint with the blood-serum of the same ox. The behaviour of the two fluids with uric acid was substantially the same; but in both instances I found that, when impregnated with uric acid in an equal degree, precipitation of bi-urate began distinctly a little earlier in the synovia than in the serum. My impression is—but it is only an impression—that with the thicker and more concentrated synovia of the smaller joints this difference would be more pronounced. Whether there is in this distinction between serum and synovia a key to the preference of uratic deposition for the joints is a question well worthy of further inquiry. It is, at any rate, conceivable, supposing the blood and its derivative fluids to be equally impregnated with uric acid and supposing the synovial fluids to be more largely charged than their congeners with salts and especially with sodium salts, that precipitation of bi-urate would take place earlier and by preference in and about the joints than elsewhere. This point will be again touched on in my next lecture when I come to speak of the topographical distribution of uratic deposits.

GELATINOUS OR HYDRATED MODIFICATIONS OF THE URATES.

There is a point of considerable interest in connexion with the chemistry of the urates which may be conveniently considered in this place, and that is the occurrence of gelatinous modifications of these compounds, which differ both in physical condition and in solubility from the more common granular and crystalline forms. The existence of these gelatinous modifications was first noted by Dr. Ord in the course of his well-known researches on the influence of colloids upon crystalline form and cohesion.[3] He observed that when hot saturated solutions of the urates of soda or ammonia were mixed with an equal bulk of strong solutions of the alkaline chlorides or phosphates the urates were thrown down on cooling in a gelatinous state. He further observed that this condition was not a permanent one, and that the gelatinous matter, after a time, changed into a mass of crystals. The interest for us in our present inquiry of these observations lies in the probability that these gelatinous modifications of the urates intervene, perhaps importantly, in the succession of changes which lead up to the formation of uratic deposits in gout. I must therefore ask your attention to some additional particulars which I have gathered on this subject. Crystalline sodium bi-urate is very much more soluble in hot water than in cold water. Nevertheless, such a hot solution, fully saturated, does not deposit its surplus bi-urate on becoming cold; it continues perfectly clear and remains so. But if the solution be evaporated down on the water-bath the bi-urate is again recovered in the crystalline form. It is obvious, therefore, that the bi-urate in passing into hot solution undergoes some notable change whereby its solubility is greatly enhanced. This change consists in the assumption of the gelatinous modification, and herein lies the explanation of the enhanced solubility. These deductions are substantiated by the following experiment: Crystalline sodium bi-urate is dissolved to saturation in hot water. The filtered solution when cold is mixed with an equal volume of a 20 per cent. solution of common salt. A voluminous jelly-like precipitate is thrown down.[4] This is caught on a filter and allowed to drain, and then cautiously washed on the filter with cold water. The gelatinous bi-urate is thus obtained in a condition of approximate purity. Now when this substance is digested at 100° F. with blood-serum or with the standard solvent, it goes freely into solution—so freely that when the filtered product is treated with acetic acid it throws down on standing a considerable deposit of uric acid. But it has before been shown that these same media when digested under similar conditions with the crystalline sodium bi-urate take it up so sparingly that the filtered products do not yield any deposit of uric acid when acidulated.

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[2] Solutions of the common (di metallic) phosphates of soda and potash and of the alkaline acetates also take up uric acid very freely at blood heat and the combination formed in these cases in the first instance is likewise a quadri-urate as may be shown by the above-described method of cooling on ice.

[3] On the Influence of Colloids upon Crystalline Form and Cohesion, by W. M. Ord, London, 1879, pp. 72 et seq.

Dr. Ord noticed, as above stated, that the gelatinous bi-urate collected as a mass on a filter passes after a time into the crystalline condition. The same transformation occurs when the gelatinous matter is held in solution in blood-serum or the standard solvent. Such solutions when set aside continue clear and unchanged for a certain time, but after the lapse of a day or two the bi-urate is reprecipitated in the crystalline form. The obvious explanation is this. The dissolved gelatinous modification reverts by slow degrees to the anhydrous crystalline condition and the bi-urate in this condition is, as we know, almost insoluble in these media. Consequently, when the transformation reaches a certain point the bi-urate is necessarily precipitated. As to the nature of the gelatinous modifications of the urates, Dr. Ord is inclined to regard them as true colloids, and he remarks on their resemblance to the colloidal modifications of silica. Their jelly-like appearance is certainly strongly suggestive of this idea, but they differ radically from true colloids in passing with ease and unchanged through the dialyser. Their real nature is, I believe, that of hydrated salts. The crystalline bi-urates are anhydrous, the gelatinous modifications are highly hydrated. It is well known that certain salts can be obtained in several degrees of hydration and that these several hydrations possess diverse degrees of solubility. The quadriurates likewise readily assume the gelatinous modification. Sodium quadriurate may be obtained in the gelatinous state in the following manner. A 5 per cent. solution of the common phosphate of soda is heated to boiling with excess of uric acid. The mixture is filtered hot. On cooling the filtrate sets into a jelly. The gelatinous substance thus obtained, pressed between blotting paper to deprive it of its mother liquor, possesses the characteristic reaction of a quadriurate—that is to say, it is rapidly decomposed by water with the formation of uric acid crystals.

Summary of the History of Uric Acid in the Body: (a) in the Normal State; (b) in the Gouty State.—The facts elicited in the [illegible] enable us to obtain a [illegible] of the state and destiny of uric acid in the body. It has been shown that in normal urine uric acid [illegible] quadriurate, and that in animals which [illegible]

[illegible]

tions it may be inferred that in the normal state uric acid is primarily taken up in the system as quadri-urate, that it circulates in the blood as a quadri-urate and that it is finally voided with the urine as a quadri-urate. In perfect health the elimination of the quadri-urate proceeds with sufficient speed and completeness to prevent any undue detention or any accumulation of it in the blood. But in the gouty state this tranquil process is interrupted, either from deficient action of the kidneys or from excessive introduction of urates into the circulation, or from some other cause, and the quadri-urate lingers unduly in the blood and accumulates therein. The detained quadri-urate, circulating in a medium which is rich in sodium carbonate, gradually takes up an additional atom of base and is thereby transformed into bi-urate. This transformation alters the physiological problem. The uric acid, or rather a portion of it, circulates no longer as the more soluble and presumably easily secreted quadri-urate, but as bi-urate, which is less soluble, and probably also—either for that reason or because it is a compound foreign to the normal economy—less easy of removal by the kidneys. The bi-urate thus produced exists at first in the gelatinous modification, but with the lapse of time and increasing accumulation it passes on into the almost insoluble crystalline condition and then precipitation becomes imminent, or actually takes place.

THE CONDITIONS WHICH ACCELERATE OR RETARD THE PROCESSES WHICH CULMINATE IN THE PRECIPITATION OF SODIUM BI-URATE.

Assuming a real analogy to exist between the processes which go on in serum artificially impregnated with uric acid and the processes which go on in the blood of a gouty patient and which culminate in the deposition of uratic concretions, it is a matter of interest, as bearing on the pathology and treatment of gout, to investigate the conditions which, in the artificial parallel, accelerate or retard these processes. As already explained, these processes consist of three distinct chemical changes. First, the quadri-urate originally formed is converted into hydrated bi-urate; next the hydrated bi-urate is changed into anhydrous bi-urate; and finally this anhydrous bi-urate is precipitated in the crystalline form. For the present purpose it will be more convenient to consider these changes as one continuous process; and for the sake of brevity and ease of expression this process may be designated as "maturation." The investigation embraced a study of the effects of temperature, percentage of uric acid in solution and the addition of various saline and other substances to the maturating medium.

(a) *Temperature.*—It was found invariably that the stage of maturation was more quickly accomplished in the warm chamber at 100° F. than at the temperature of the room, but the ultimate result was exactly the same in both cases. For example, serum charged with 1 part uric acid in 600 began to precipitate in the warm chamber in four hours and precipitated copiously in six hours. A duplicate specimen kept at the temperature of the room (65° F.) began to precipitate in eight hours and did not precipitate copiously for sixteen hours. Another sample of serum, impregnated with 1 part of uric acid in 1000, began to precipitate in the warm chamber in six hours and deposited copiously in fourteen hours; while a duplicate kept at the temperature of the room (60° to 70° F.) only began to precipitate in thirty hours and copious precipitation did not take place for forty-eight hours. The absolute constancy of these results led to the idea that maturation would go on more rapidly at a febrile temperature (104° to 105° F.) than at the normal temperature of the body, and that here might be found an explanation of the circumstance that gouty outbreaks sometimes follow immediately on the heels of an injury. When, however, this notion was tested experimentally no support was found for it. It was also observed that, although maturation itself was favoured by warmth, the terminal act of the process—namely, the actual precipitation—might, on the contrary, seeing that the bi-urate is more soluble at higher than at lower temperatures, be favoured by cold and that this might account for the fact that gouty concretions tend to be deposited in the cooler and more exposed parts of the body, in the [illegible] tissues rather than in the warmer internal parts. [illegible]

(b) *Quantity of Uric Acid in Solution.*—[illegible] the proportion of uric acid in solution. The following experiment with blood-serum, the results of which are arranged in a tabular form, illustrates these points in a striking manner. The phials containing the serum were placed in the warm chamber for fourteen days and were afterwards kept at the temperature of the room. Chloroform was added to prevent putrefactive changes :—

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[4] The gelatinous bi-urates may be thrown down [illegible]

TABLE XVII.—*Showing the Influence of Percentage of Uric Acid in the Medium on the Speed of Maturation, and the Time of Advent of Precipitation.*

Quantity of uric acid contained in the serum.	Time of precipitation of sodium bi-urate.
1 in 1000	Precipitation began in 6 hours; copious precipitation in 14 hours.
1 in 2000	Precipitation began in 33 hours; copious precipitation in 3 days.
1 in 3000	Slight precipitation began in 3 days, which became a little more copious in 12 days.
1 in 4000	A few needles of bi-urate were detected on the 6th day; more needles and a few tufts in 12 days.
1 in 5000	A few short needles were detected on the 13th day In 30 days the needles were somewhat more numerous.
1 in 6000	No needles were discoverable in 14 days; a few were detected in 40 days.
1 in 8000	No needles could be detected after the lapse of 40 days.

Assuming that the inflammatory arthritic attacks in gout are directly due to copious and sudden precipitation of crystalline stars and needles of sodic bi-urate in the cartilages and fibrous structures of the joints, the evidence before me indicates that such copious sudden precipitation can only take place when the fluids bathing these structures are impregnated with uric acid in at least the proportion of 1 part in 2500. Below this point the precipitation occurs slowly and scantily, and only in the form of short scattered needles. When the proportion of uric acid in the serum was only 1 part in 5000 the deposited needles were mostly about as long as the diameter of a red blood-disc, some were twice this length, and a few three times this length, and all were of extreme tenuity. It is quite conceivable that this slighter precipitation in the tissues of short scattered needles might account for certain irritations in the various organs, such as characterise irregular or larval gout; but it could scarcely engender downright inflammatory attacks. It is further conceivable that the presence in the blood of such scattered needles might constitute foci, around which clotting might take place; and that the thrombosis not unfrequently observed in gouty cases might thus be accounted for. The impregnation of the blood in gouty persons with uric acid to the extent of these lesser degrees is within the range of observed actualities. Sir Alfred Garrod obtained by quantitative analysis from the blood-serum of one of his patients uric acid to the amount of 1 part in 5714; and he remarks that the quantities thus recoverable from the blood are probably much under the actual amounts, as considerable loss is liable to occur from unavoidable causes. These considerations lead to the suggestion that a microscopical examination of the blood in gouty persons might sometimes reveal the existence of needles of bi-urate in that fluid. I tested this point in ten cases of chronic gout by examining a drop of blood drawn from the finger, but I failed to obtain positive results.

(*c*) *Influence of Saline Substances.*—The effect of saline substances on the maturating process was tested by adding small quantities of various salts to serum impregnated with uric acid and observing whether these additions accelerated or retarded precipitation. The experiments were carried out in the following manner: Uric acid was dissolved at blood heat in blood-serum in the proportion of 1 per 1000 or 1 per 2000. A number of phials capable of holding 25 cc. were charged with the serum thus impregnated. One phial had no further addition made to it—this was the control phial. To the others small quantities, varying from 0·05 per cent. to 0·2 per cent. of the salts to be tested, were added. The phials were then chloroformed to prevent decomposition and placed in the warm chamber. The occurrence of precipitation was noted at two points—namely, at its very onset, as revealed by the detection on microscopical examination of needles of bi-urate, and secondly, when precipitation became copious and was recognisable by the naked eye. A large number of experiments were made on this plan. The state of the medium during precipitation was that of a supersaturated solution, and, consequently a very slight, often inappreciable, inequality in the conditions of the experiment was sufficient to disturb the time and rate of precipitation. For this reason it was frequently found necessary to repeat the observations once and again to get the correct indication. I need not trouble you with details; the following summary indicates sufficiently the conclusions deduced from the experiments. The addition of *sodium* salts to the maturating medium hastened precipitation. An idea of the degree of acceleration may be gathered from the following examples. Serum impregnated with uric acid to the extent of 1 part per 1000 commenced to precipitate in seven hours and precipitated copiously in sixteen hours. A parallel experiment, in which 0·2 per cent. of sodium chloride had been added to the serum, began to precipitate in five hours, and precipitated copiously in twelve hours. Another sample of serum was impregnated with uric acid to the extent of 1 part in 2000. This began to deposit crystals in thirty hours, and deposited freely in ninety-six hours. In a parallel experiment, in which 0·2 per cent. of sodium bicarbonate had been added to the medium, precipitation began in twenty hours and free precipitation took place in forty hours. The alkaline reacting salts, the carbonate and phosphate, had exactly the same effect as the chloride and sulphate, which are neutral in reaction.

The addition of *potassium* salts sensibly retarded precipitation, but did not appreciably diminish the eventual amount of it. Here, again, the carbonate and phosphate, which are alkaline, produced just the same effects as the chloride, iodide and bromide, which are neutral. Both with potassium and sodium salts the results were entirely dominated by the nature and quantity of the bases added and had no reference to the acidulous radicle with which the bases were combined.

The addition of *calcium* and *magnesium* salts appeared to delay precipitation, but their action in this respect was quite insignificant or even doubtful.

ABSTRACT OF THE

Hunterian Lectures

ON

CERTAIN DISEASES OF THE BREAST,

Delivered at the Royal College of Surgeons

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LECTURE III.

IN this lecture the growths affecting the ducts of the breast are described under a classification neither strictly clinical nor pathological.

Duct papilloma is characterised by the development of papillary growths in the larger ducts, usually in the region of the nipple and particularly in the sinuses. There is no nipple retraction or enlargement of the axillary glands. Discharge from the nipple, which may be serous, clear, or bloodstained, or pure blood, is a marked feature, but it is rarely persistent. The growth is unilateral, unaccompanied as a rule by pain or tenderness, and its progress is slow. It is met with in both married and single from thirty-five to fifty-five. The discharge from the nipple may precede any swelling by some considerable period. There may be a history of prolonged suckling, sore nipples, or injury. On incising the swelling we have a space with smooth walls almost completely filled by a raspberry-like soft papilloma, attached by a slender pedicle. These papillomata may be single or multiple, usually the latter. (Fig. 1.) Of these, one alone may be large and they seem generally distributed in one duct area, of which the ducts may be dilated.[1] The following is an illustrative case: "S. S——, thirty-nine, was admitted under the care of Mr. Clutton, in September, 1890. She was married and had three children, the youngest fifteen months old and allowed

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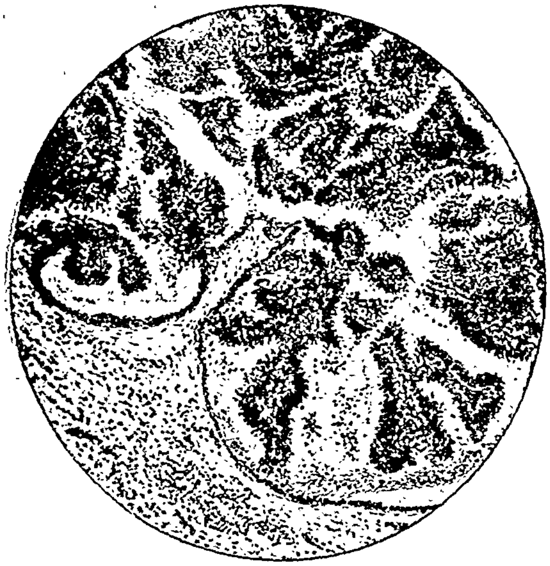
[1] Barker: Brit. Med. Jour., vol. i. 1890.

"hæmorrhagic carcinoma" which, from the history and description, seems to be undoubtedly a villous cancer with hæmorrhage. Hæmorrhage, in the firmer form of these tumours, is not so common; if present, it may complicate the diagnosis.[15]

Histologically, in the soft forms distinct papillæ are seen to pass into the interior of a cavity; these have secondary offshoots, which interlock in filling up the space. These papillary processes have an epithelial covering two or three layers in thickness, the deeper cells being typically columnar or cubical. These cells are arranged on delicate connective-tissue processes, which show such a scanty round-celled infiltration in many cases as to give doubts of the malignancy of the growth. (Fig. 2.) The surface cells very soon undergo mucoid degeneration, the latter material staining with hæmatoxylene a reddish colour, like that met with in ovarian adenomata; this mucus holds in suspension numerous epithelial cells and blood discs. The connective tissue rarely appears in places to have undergone a mucoid change, as in carcinoma myxomatodes, and there may be hæmorrhage into it. Besides the more or less solid growths we may have evidence in the breast tissue around of cystic change due to dilatation of ducts in association with chronic interstitial mastitis. In this tissue we may be able to trace all stages in the evolution of the growth from a multiplying epithelium to the formation of well-marked papillary processes and it seems consistent to assume that the growth has developed on the top of a chronic inflammation. In some cases again the papillary processes may be so united as to give the growths a trabeculated appearance. In the firmer forms the structure may be trabecular or may show alveolar spaces lined by an epithelium many layers in thickness, the outermost cells being columnar. The innermost layer of this epithelium tends to become papillated and in the centre may be granular débris. (Fig. 3.) The alveolar spaces in some examples may be filled by epithelial cells resembling a very cellular acinous carcinoma, except that the peripheral cells are *columnar*.

FIG. 2.



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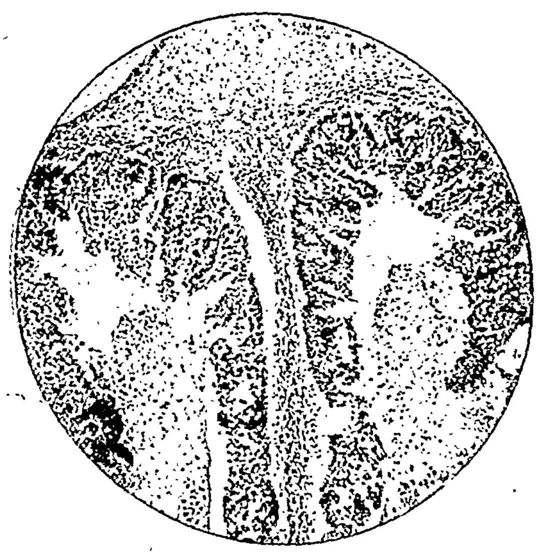
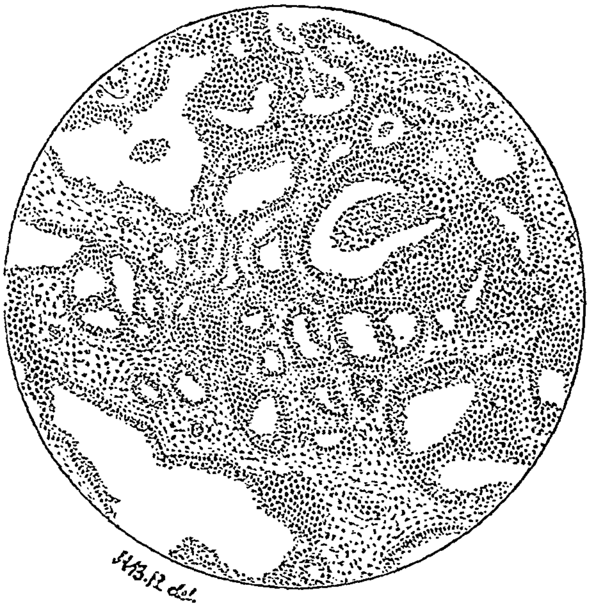


The course of these tumours is slow, extending over many years. R. Williams[16] groups the cases of duct papilloma and villous carcinoma together and says, "These growths are of a perfectly innocent nature, though often multiple; they have no tendency to local infection, nor do they ever disseminate in the adjacent lymphatic glands or the system at large and when completely removed they never recur." This very favourable prognosis is unfortunately not borne out by facts, for we have well-marked examples where the growth has recurred near the scar and where the glands have become involved. Bowlby[17] describes a case of villous cancer where there were two recurrences: one two years and a half after the first operation and the other ten months later. One of my cases[18] had a local recurrence fifteen months after and the glands became involved within the next six months, or four years and a half after the tumour was first noticed. Butlin[19] quotes a case in which there were five local recurrences and involvement of glands ten years after the growth was first seen. I cannot find the record of any secondary growths in bones or viscera in this group. The treatment in these cases should be free removal at the earliest opportunity, with exploration of the axilla.

FIG. 4.



The next variety of duct cancer differs from the last group in its marked likeness to scirrhus. These tumours occur between forty and fifty years of age, attacking both single and married, the latter being very often sterile. They are hard, non-elastic and bossy on the surface, with ill-defined margins infiltrating into the tissues around. They are not limited especially to the nipple region. There is a *distinct tendency* for the skin to be implicated and in some cases it may be reddened. The nipple is not retracted and there is no discharge, but the axillary glands may be involved. Pain is a fairly constant feature, but it does not occur until late. The tumours are single and may have fluctuating spots in them

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[15] Butlin: Trans. Path. Soc., vol. xxxviii.

[16] THE LANCET, vol. i. 1892, p. 880.

[17] St. Bartholomew's Hospital Reports, vol. xxiv.

[18] Trans. Path. Soc., vol. xli.

[19] *Ibid.*, vol. xxxviii.

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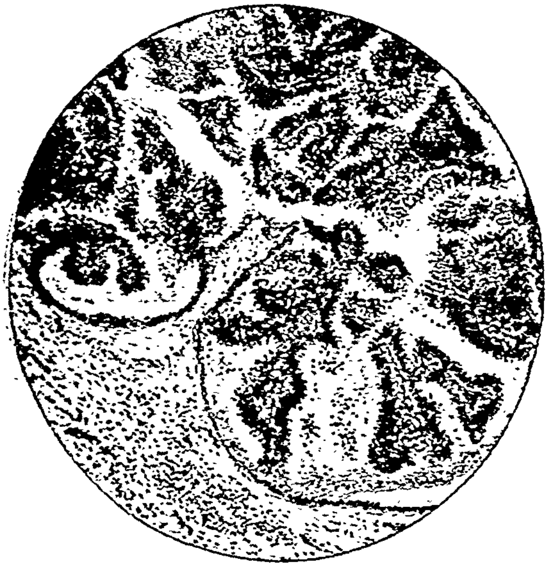

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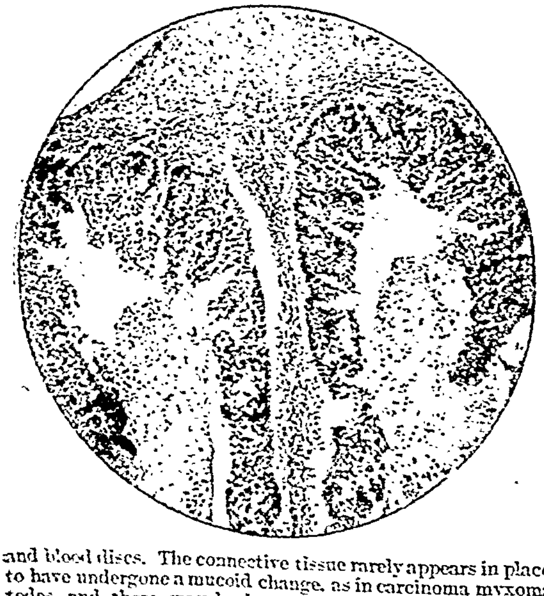

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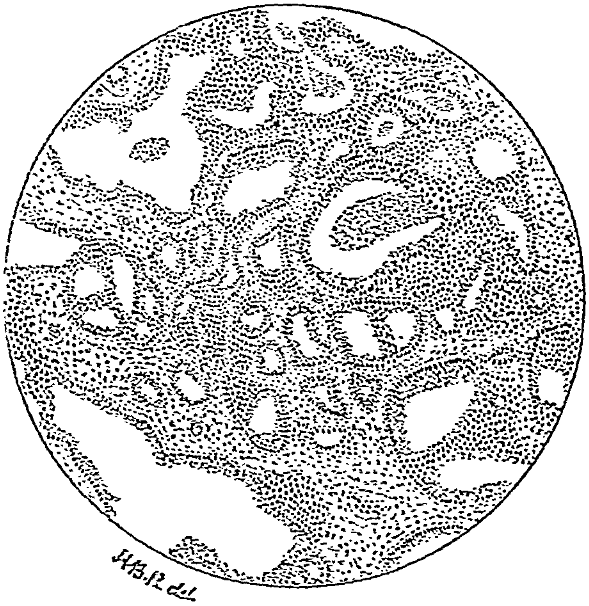

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Duct Cancer with Paget's Disease.—A certain number of the cases of chronic eczema are associated with a tumour in the breast. Bowlby,[30] out of twenty-three collected cases, found tumours in fourteen and Delbet's[31] list shows seventeen out of twenty-six. The breast tumours succeed the eczema at a varying interval. What is the nature of the growth in relation with the eczema? Bowlby[32] says "in all these cases the new growth has run the usual course of a scirrhus and has been found on clinical examination to present the usual characters of this tumour"; and "with regard to the cancerous growth, all observers, with the exception of Dr. Thin, describe the tumours as scirrhus or spheroidal-celled carcinoma." He[33] gives the following description: "The tumour consisted of round masses of cells in an alveolar framework, with very little cell exudation and no appearance of small cell columns, as in scirrhus; the central cells are broken down and the outer cells are columnar." Barling[34] records a case of eczema of six months' duration where the nipple alone was affected and from it a cord stretched to a nodule in the breast the size of a horse-bean. This on incision was of a yellow colour and appeared like an alveolar carcinoma, though in places it resembled a duct carcinoma. Jonathan Hutchinson, jun.,[35] remarks on the resemblance histologically to duct cancer.

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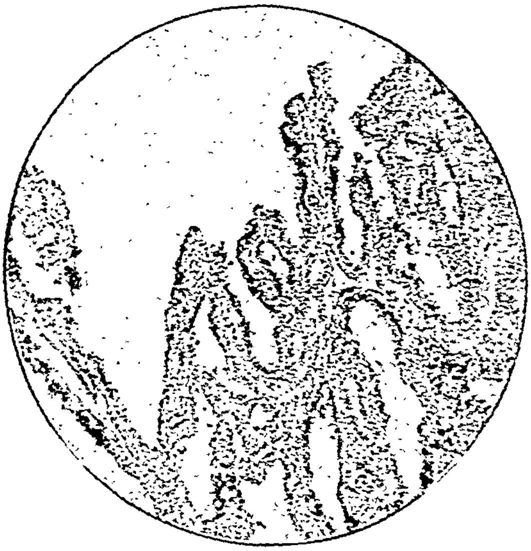

The following tumour implanted on a chronic eczema was an undoubted duct carcinoma resembling the structure of the firm circumscribed tumours before described:—"M. G——, aged sixty and married. Soreness and discharge from the left nipple for two years. Four months before admission noticed circumscribed near nipple which was painless. The tissue between nipple and tumour seemed free. One gland in axilla. The tumour on section was made up of a number of cystic spaces filled with filings of epithelium very easily detached. (Fig. 7.) Histologically these large spaces are lined by a many-layered epithelium the deep cells of which are columnar. In the centre there is a large amount of granular material. The tissue between the tumour and nipple showed dilated ducts with proliferating epithelium and some small-celled exudation around. The skin presented the forms in the epithelium described by Darier and Wickham as coccidia. This tumour recurred eighteen months after, with marked enlargement of axillary glands."

If there is any truth in the view that psorosperms are the cause of Paget's disease, it seems reasonable to suppose that if the disease has a growth in a breast it is due to the same cause. In passing along the ducts it is probable that some change would be produced here and such seems to have occurred, the tumour formed resembling duct cancers.

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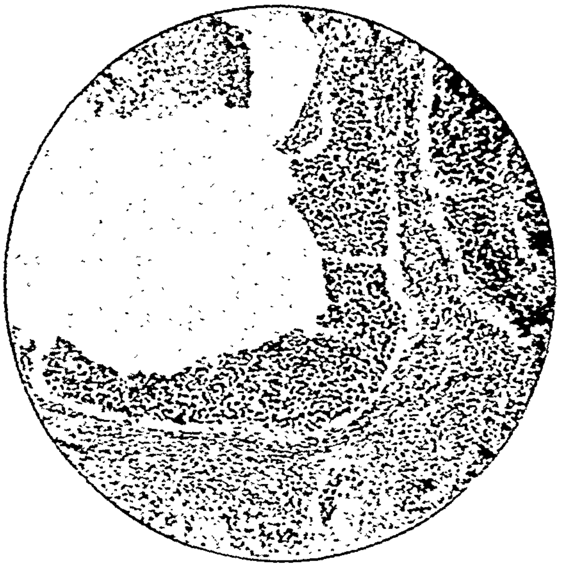

A point that has been urged against these tumours being allied to the duct carcinomata is that the latter are usually soft and the glands are not involved. This argument we know is not tenable after a consideration of the clinical course of the former duct tumours.

In quite an early stage of the eczema the structure of the nipple may show very marked changes. The ducts have their epithelial lining proliferating and they are dilated. (Fig. 8.) This condition I found in a man of fifty-six[36] and it had given him no inconvenience. The case had additional interest because the patient had a very advanced carcinoma of the tongue.

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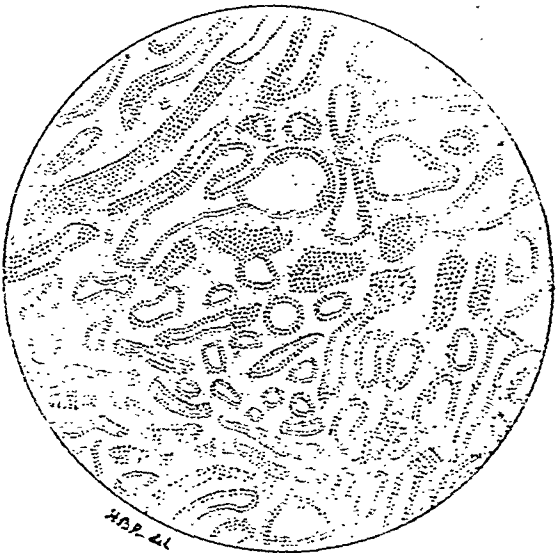

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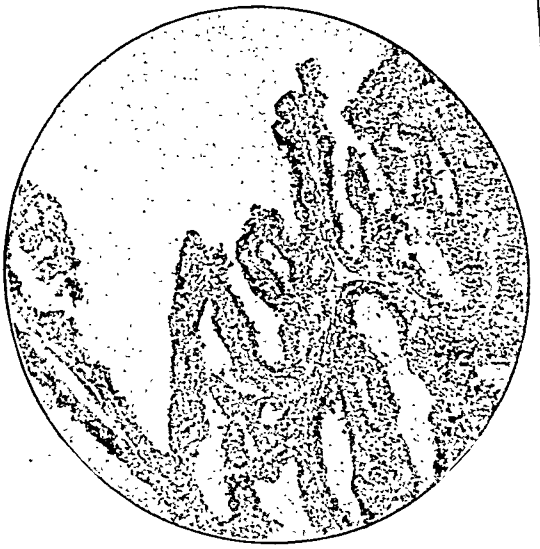

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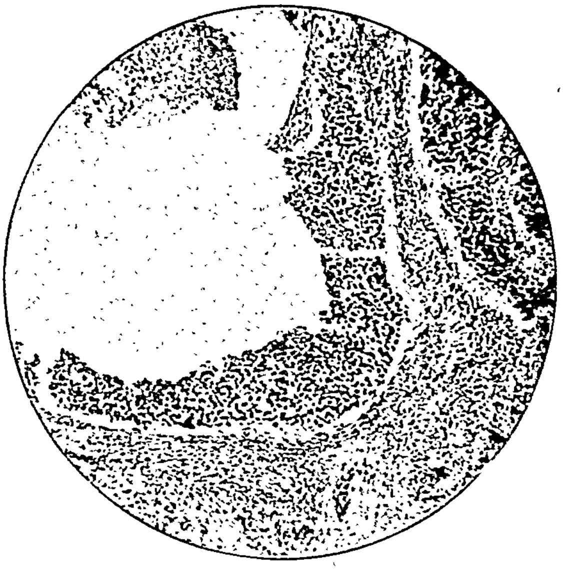

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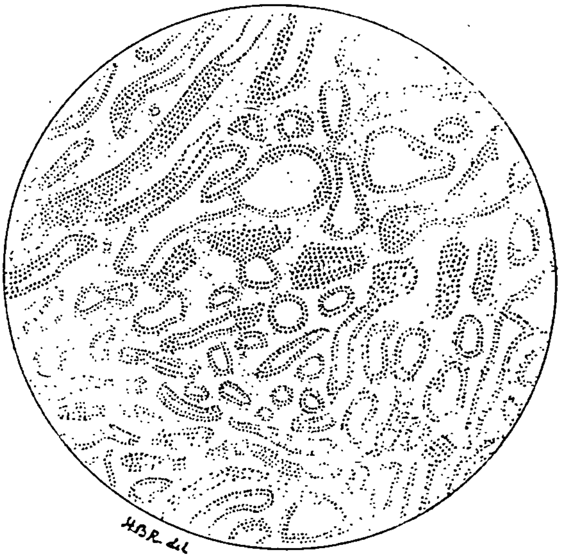

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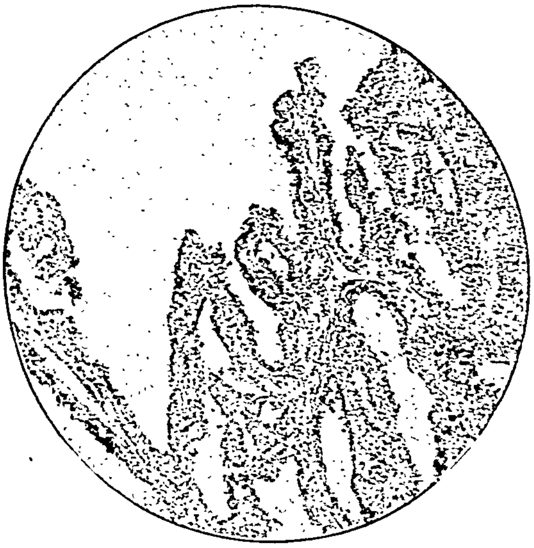

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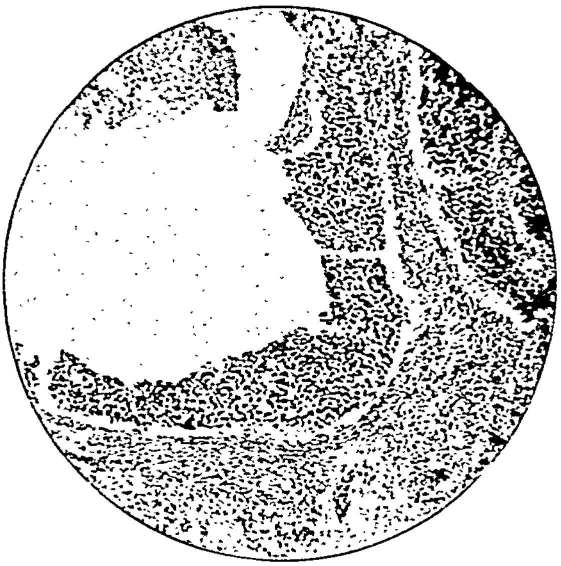

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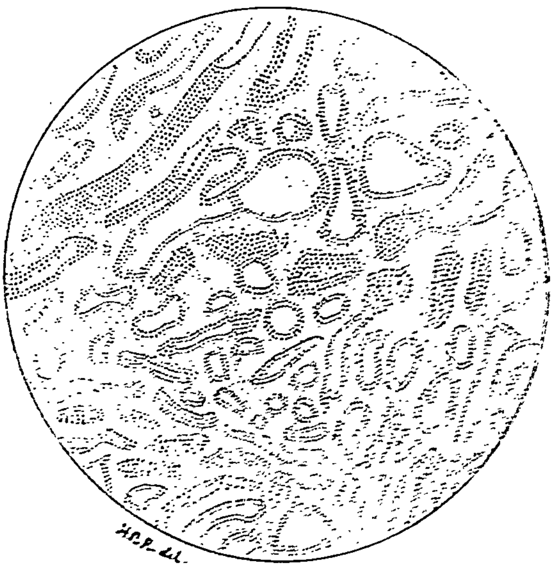

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AN ABSTRACT OF

Lectures

ON THE

TREATMENT OF SURGICAL TUBERCULAR DISEASES.

Delivered at the Royal College of Surgeons of England in June, 1892,

BY WATSON CHEYNE, M.B. ED., F.R.C.S. ENG.,
HUNTERIAN PROFESSOR, JOINT PROFESSOR OF SURGERY AT KING'S COLLEGE, SURGEON TO KING'S COLLEGE HOSPITAL, ETC.

LECTURES II. & III.

MR. WATSON CHEYNE illustrated the value of extension in tubercular disease of the spine with paralysis. The chronic inflammation of the bone in cases of spinal disease is kept up by the presence of the tubercle, by the weight of the upper part of the body and by the pressure of the inflamed vertebræ against each other as the result of the tonic contraction of the surrounding muscles. This chronic inflammation may extend to the *meninges*, leading to thickening and paralysis from pressure. In other cases these thickened *meninges* become infiltrated with tubercular tissue or a chronic abscess forms in the vertebral canal, both of these conditions also leading to pressure on the cord and paralysis. This condition of pachymeningitis is kept up to a great extent in unison with the osseous inflammation by the action of the weight of the body and of the muscular contraction, and therefore it is clear that the first indication as regards treatment is to see what can be done by relieving these conditions. This is best done by complete recumbency and the application of extension to the head and feet rather than by having immediate recourse to laminectomy. The effect of the muscular contraction in producing curvature and leading to the extension of the disease is not sufficiently realised and hence it has been thought by some that the object of the double extension is to undo the curvature, on the supposition that the paralysis was due to actual pressure of the bone. This is, however, not the case; the object of the extension is to overcome the muscular contraction and thus lead to diminution of the inflammation and absorption of the inflammatory material and consequently to relief of the pressure on the cord. The lecturer mentioned three cases in which the operation was avoided by the employment of rest and double extension. He continued:—

"I believe that most cases would yield to that treatment, but I am far from saying that laminectomy is not necessary in some cases. What I wish to urge, however, is that the operation should not be performed till double extension and rest in the recumbent posture have been thoroughly tried. The same principle of extension first followed by the use of proper retentive apparatus is, I believe, the best routine treatment wherever applicable in the case of tubercular joint disease where there is either superficial or deep disease of bone as evidenced by fixation &c. In hip-joint disease, for example, it is, I think, too much the fashion to order a Thomas's splint and let the patient get about on crutches at once. I quite admit that it is almost impossible to do otherwise in hospital practice, but when the patient can be put to bed for six or eight weeks I am sure it is best, where there are signs of bone trouble, to begin with treatment by light extension, generally three or four pounds, reducing the weight as the muscular resistance diminishes. In this way also the deformity can be most quickly and satisfactorily overcome. At the end of that time the patient can be fitted with a Thomas's splint so modified as to overcome the adduction properly.

"Counter-irritation is a favourite remedy in cases of simple chronic inflammation and was formerly much employed in tubercular disease, but now, under the erroneous idea that the only object of local treatment in these cases is to act directly on the tubercular tissue, it is falling into disuse. As I am trying to show, however, a great deal can be done in these cases by getting rid of the attendant chronic inflammation, and for this purpose the severest forms of counter-irritation—blisters and the actual cautery—are of value in suitable instances. In cases of pure synovial disease improvement sometimes follows blistering, but where the bone is inflam and is deep-seated the most effectual method is the applic tion of the actual cautery. The most suitable parts for th treatment are the hip and shoulder joints and the spin I have not seen much good result from the use of the caute in pure synovial disease and in the case of superficial joint such as the knee, I should fear that it would do harm increasing the congestion of the synovial membrane. I applying the cautery in cases of bone disease it must be do freely by means of a broad flat cautery at white heat pass rapidly two or three times over a considerable area of skin in the case of the spine, on each side of the spinous processe in the case of the hip and shoulder, both in front of an behind the joints. After the application of the cautery war boracic fomentations are applied till the slough separat and then savin ointment, either pure or diluted with vaselin is used and the sore kept open for about six weeks. I belie the best results are obtained when only the superficial po tion of the cutis is destroyed and where, therefore, man nerve terminations are exposed. The objection to this is th it is very difficult to keep these sores from healing rapidl and savin ointment often causes such pain that it cannot b employed. Under such circumstances it may be necessary open up the sores as they heal by potassa fusa, nitrate silver, or fresh application of the cautery.

"Another method of treatment which is commonly employ in the treatment of simple chronic inflammation with the ve best results is to make free incisions into the inflamed tissue aseptically, of course, on the principle of relief of tension. the case of chronic periostitis there is no more effectual remed than to make free incisions through the inflamed periosteum an in the case of osteitis, to gouge the inflamed bone extensivel In other cases also, especially in tense collections of flui the relief of the tension often leads to a cure. A good man years ago Sir Joseph Lister attempted to apply this sam principle to the treatment of chronic synovial disease—th tubercular nature of the affection not being at that tim thoroughly understood—and with a certain amount of succes The treatment probably acts, as I have said, by relief tension and consequent subsidence of inflammation. Th there is a considerable amount of tension in the part evident from the way in which the wound gapes whe the incisions are made. It is possible also the treatmen may be efficacious in another way, for as the wounds he the young tissue contracts, and this pressure may exercise beneficial effect. Where the result is partially successful is not unusual to see a depressed scar at the seat of incision with little or no thickening in its immediate neighbou hood, great improvement or even cure of the disease havin occurred around the incisions, but not elsewhere. Lastl there may possibly be some meaning after all in the ol formula of the induction of healthy action in the par The process of repair going on actively and well at on part may in some way that we do not understand exercis a favourable influence on the neighbouring diseased part That good results may follow simple incisions into joint the seat of tubercular disease is not more surprising— indeed not so surprising—as that good results follow simpl laparotomy in cases of tubercular peritonitis; and yet ther are now numerous cases on record in which the abdomen ha been opened in cases of tubercular peritonitis either inte tionally or by mistake, and where, though nothing furthe was done, though the wound was simply stitched up agai considerable improvement, in some cases apparently cu followed the incision. With our present improved metho of performing arthrectomy and treating chronic abscesse I think that simple arthrotomy has a comparatively sma field. When we have once gone so far as to la open a joint we may as well go somewhat further most cases and remove at least as much of the tube cular tissue as is easily accessible. At the same time there are some cases in which the disease is *more or le* stationary, or only progressing slowly, where an aseptic arthro tomy is sufficient to lead to recovery taking place. The case most likely to do well are those where the thickening of th synovial membrane is not very great and is firm, and whe on cutting through it no cheesy or softened spots can be see Of nineteen cases of knee-joint disease treated in this wa nine got well. So far the methods considered do not act the bacilli directly, they only aim at improving the gene nutrition of the tissues or diminishing or removing the infla mation around the tubercular deposit, thus putting the tiss in a better position to resist the invasion and destroy th parasite. I must now pass on to the consideration of th means which act more directly on the parasite and the tubercular tissue.

"Before going on to the operative measures I may say a few words about Koch's tuberculin treatment. I need not go into any detail as to this matter because I have nothing new to say, and the conclusions to which I have come are very much those which I mentioned as provisional conclusions in the paper which I read at the Medico-Chirurgical Society now more than a year ago. At that time I held that the direct risks of the treatment were much overrated, more especially the risk of acute tuberculosis and I still think that this is the case. In none of the cases in which I used tuberculin—nearly sixty in number—did acute tuberculosis occur, while curiously enough three out of nine cases, on which I was consulted or in which I considered the advisability of the treatment but decided against it, died of tubercular meningitis, and one developed an acute tubercular joint disease about fourteen days after we had determined not to employ tuberculin. In my opinion the two great dangers of this treatment are (1) its use where there are septic cavities or surfaces and (2) leaving it off too soon. As regards the first danger, the chief trouble lies partly in the increase of the inflammation as the result of the action of the tuberculin and partly in the weakening of the tissue by this inflammation allowing the pyogenic organisms to penetrate further and more rapidly. As regards the second danger, that of leaving off the treatment too early, it certainly is the fact that under such circumstances recurrence takes place quickly and in my experience the disease seems to progress more rapidly than before the treatment was employed. I do not think that I can say the same when the treatment has been continued for some months and then left off; at any rate, speaking of lupus, while under these circumstances it has recurred in places pretty quickly at first, it has afterwards seemed in several cases to come more or less to a standstill, or even to improve somewhat. Certainly in several of the cases the condition of the patient some months after the treatment was stopped has not been so bad as before it was commenced, nor so bad as it seemed likely to become when recurrence first began to take place. As to the remedial powers of tuberculin, there can be no doubt that in many cases where the conditions are favourable a certain amount of improvement follows its use, which, however, but rarely ends in a cure of the whole area within a reasonable time. In only three of the cases where no operation was performed has the improvement been complete and lasting over the whole surface. These were two children with synovial disease of the knee-joint and one patient with phthisis. In all three cases the treatment was continued for about five months and these patients remain well. Four other cases where sinuses were present which healed at the time remain healed. In all the others in which the treatment has been stopped recurrence has taken place; but in several bad cases of lupus considerable tracts which were previously diseased have remained well, showing, along with the cases just mentioned, that tuberculin really has the power of causing the permanent disappearance of tubercular tissue under certain conditions. From the microscopical appearances I conclude that the main condition is that the tubercles shall be isolated and not aggregated into masses. Isolated tubercles seem to be readily infiltrated with inflammatory cells and disappear, while only the external portions of tubercular masses are in relation to the blood stream. As it is very rarely that in the tubercular area there are only isolated tubercles or very small groups of them, it is very seldom that a complete cure can occur, at any rate within a short time. Although, however, larger masses are not destroyed by tuberculin, their growth is brought to a standstill for a time at least, and the question is for how long this condition of standstill can be kept up. This seems to vary very much in different cases; but, on the whole, when the injections are given frequently in the manner which I recommended in my paper I think that the disease may in a good many cases be kept in check for a long time. In only two of my cases are the patients still going on with the treatment—viz., in two medical men with phthisis—and these patients, though very ill and rapidly going downhill when the treatment was commenced, quickly picked up, even though staying in London during cold and very foggy weather. They have now been at work for more than a year as surgeons on board ships and have no symptoms of disease. They inject themselves every day or every other day, and, if they follow my advice, will continue to do so indefinitely. On the whole, I think that considering the indefinite length of time that the treatment must be continued and the danger of leaving it off, it does not come into play in those cases of external tuberculosis which are accessible to other local measures. On the other hand, in phthisis I think that the treatment has been unduly discredited and too hastily abandoned, and in some cases of internal tuberculosis which come under the care of the surgeon and where no really radical measures can be adopted, as in the cases of bladder tuberculosis previously mentioned, the use of tuberculin or one of its constituents may be of some assistance in retarding the progress of the disease.

"Various substances have been used both generally and locally with the view of interfering with the growth of the bacilli, but without any special advantage. It has always seemed to me that something might be done by trying to saturate the tissues with some harmless substance which would render the soil unsuitable for the growth of the tubercle bacillus and among other things I have tried the benzoate of soda with doubtful success. Further, attempts have been made by injecting solutions of various substances into or around the tubercle to cause calcification (Kolischer with phosphate of calcium) or encapsulation (Lannelongue with chloride of zinc) of the tubercle, but without any real advantage. Various antiseptics have also been injected into the tubercular tissue with the view of destroying the bacilli—for example, carbolic acid, creasote, guaiacol, &c.; but these substances have failed in their object and only irritate and weaken the tissues and enable the bacilli to spread. For example, the infection of animals by inhalation of dried sputum is rendered more certain if at the same time inhalations of sulphurous acid are administered; and the result of the employment of inhalations of creasote in rabbits which are already tuberculous is not to prevent the disease in the lungs but actually to make it spread more extensively than in the control animals. There has been much controversy as to the anti-parasitic and anti-tuberculous action of iodoform. Certainly no true anti-parasitic action can be produced outside the body. Organisms grow, though perhaps more slowly, on substances covered with iodoform. Indeed, septic infection has occurred in wounds from powdering them with dry iodoform and therefore in an operation where the skin is previously unbroken iodoform cannot be recommended as an antiseptic; and yet if it is employed as an application to a putrid sore the smell very soon disappears and suppuration diminishes. As an explanation of this fact it has been stated that while pyogenic organisms grow in material containing iodoform their poisonous products are apparently decomposed as soon as they are produced, and this decomposition is accompanied by breaking up of the iodoform, the free iodine possibly then acting destructively on the organisms. If the bacterial products are thus broken up the bacteria will be deprived of their weapons, without which they cannot do much harm, and will be more rapidly destroyed by the tissues. Thus iodoform may really be of some use in tuberculosis. It has been recently pointed out by Krause that iodoform acts better in closed cavities, such as abscesses than on a free surface and that better results will be obtained by packing tuberculous wounds with gauze saturated with iodoform than by sprinkling it over the surface. Certainly I have had several cases lately which seem to confirm this view where tubercular sinuses have done extremely well by slitting them up and stuffing them with iodoform gauze, better than formerly by scraping and draining them or injecting iodoform and glycerine."

Reference was then made to the question of cases suitable respectively for expectant treatment and for operation, and the various points which influence the decision were discussed. [See a paper on this subject in THE LANCET for October, 1890.]

LECTURE III.

The modes of complete removal of the disease in cases of tubercular joint affections are three in number—viz.: (1) complete removal of the diseased tissues along with as little as possible of the healthy structures—i.e., arthrectomy; (2) removal of the diseased tissues, along with certain portions of the ends of the bones whether diseased or not—i.e., excision; and (3) amputation above the affected joint. Arthrotomy has been already discussed, and it was pointed out that it was only suitable for very few cases, and that if a joint was opened it was best to remove at least a portion of the affected tissues. This question of partial arthrectomy will be again referred to. Many circumstances influence the choice of the operative measure, the chief of which are the age, the general condition of the patient and the local condition. As regards the treatment of chronic abscess, drainage is almost entirely given up and more radical measures are adopted: 1. A chronic abscess being a tubercular tumour with softened centre *the ideal treatment is to dissect it out* as one would dissect out a cyst, and this is what I always do when the situation and size of the abscess permits. Where the abscess has started from a tubercular deposit in the bone the removal of the abscess and the affected bone leaves a clean cut wound which heals by first intention and thus the process is cut short. For example, in chronic abscess connected with a carious rib a cure is at once obtained by dissecting out the abscess and removing the affected part of the rib. 2. Where it is not possible to dissect out the wall on account of its size and connexions the next best thing is to make a large opening into it sufficient to admit the hand if possible and try to peel and dissect out the wall; of course if the abscess has started from a deposit in bone, that ought also to be removed if accessible. 3. Failing either of these plans there remains the method of making a smaller incision into the abscess, and attempting to get rid of the wall as thoroughly as possible by scraping with sharp spoons, rough sponges &c., washing out all the débris, perhaps filling the cavity with a 10 per cent. emulsion of iodoform in glycerine, and stitching up the wound. By this means healing can usually be obtained though the process may have to be repeated more than once; the bone deposit, if present, cannot however be satisfactorily cleared out.

Another important factor influencing the nature of the operation is the septic or aseptic condition of the part. Sepsis aids the spread of the tubercular disease, both locally and generally, and also complicates the operative procedures, because it introduces the risk of the various septic diseases; hence it often necessitates the employment of more severe operative procedures than would otherwise be necessary. Hence in treating a case of tubercular disease with septic sinuses it is, I think, advisable in most cases to do more than merely put the part at rest; some operative treatment should as a rule be adopted. Where it is not deemed desirable to proceed to radical measures I believe the best treatment is to lay the sinuses freely open, scrape or clip away the walls, remove as far as possible the starting point of the original abscess, sponge the surface with undiluted carbolic acid, stuff the wound with iodoform gauze or with cyanide gauze freely sprinkled with iodoform and allow it to granulate from the bottom. My experience is that much better results are obtained in this way than by simply enlarging and scraping out the sinuses and inserting a drainage-tube, as was the method formerly employed. In cases of joint disease, however, this method is only rarely applicable, and in most cases where sinuses lead into joints or are multiple and where the disease is advancing, one of the three radical measures must be adopted. At one time I was inclined to think that the presence of septic sinuses excluded arthrectomy, but I have now done several complete arthrectomies in such cases, sponging the surface of the wound afterwards with undiluted carbolic acid and with good results.

The next point considered was as to the desirability of performing partial operations. Where subsequent mobility is desired, a great objection to complete arthrectomy is that the fibrous capsule is often also removed and that the ligaments must be divided in order to get at the whole of the joint, and thus its strength and mobility are impaired. At first it seemed to me probable that complete removal of the disease was not always necessary and that a partial arthrectomy might be sufficient in a certain number of cases; *the grounds for this belief were the good results of expectant* treatment, of arthrotomy, actual cautery, aseptic drainage of abscesses, tubercular peritonitis &c., showing that comparatively little is required in some cases to turn the scale in favour of recovery. In excisions also, as formerly performed, no attempt was made to remove all the diseased tissues and yet healing occurred in a considerable number of cases, although it is true fistulæ frequently remained open for a long time. The results of partial arthrectomy in the case of the hip-joint and knee-joint were mentioned. In the case of the hip-joint a complete arthrectomy is very difficult, but the lecturer mentioned five cases in which he had performed a partial arthrectomy; in three of them with the view of *removing tubercular sequestra, which were evidently present* in the neck of the bone.

The lecturer confessed that on the whole he was disappointed with the results obtained by partial arthrectomy and the conclusion he had come to was that this operation has only a very limited field, and that in most cases where it becomes necessary to remove diseased tissue complete removal is preferable. In a few cases, however, partial arthrectomy may be of use. In some cases in the knee-joint also it may be sufficient, especially in cases where on cutting into the joint the synovial membrane is found not to be markedly pulpy, where the disease is in the substance of the membrane, not on its surface, and does not affect the bone, and where no cheesy spots are present. In other cases it is best to go on to complete removal of the affected tissues. Mr. Watson Cheyne said:

"By arthrectomy I understand all operations by which the whole of the tubercular tissue is removed along with as little as possible of the surrounding healthy tissue. We may perform a complete arthrectomy without opening the joint at all, as in the hip-joint case, where I tunnelled along the neck of the femur, or without removing any tissue from the joint, as in the elbow case, where I removed the tubercular deposit from the external condyle, or with the removal of a limited portion of the synovial membrane, as in the other elbow-joint case mentioned. I term the arthrectomy 'complete' when the disease is completely removed, not necessarily when the whole of the structures of the joint are cut away. As a rule the operation is a very extensive one, and requires much patience and great care for its satisfactory performance, because the whole synovial membrane at least is involved. The diseased tissue must be removed by careful dissection; scraping is quite unsatisfactory, except perhaps as regards small points, especially in the cartilage, and if employed it must be very thoroughly done. Let me describe a complete arthrectomy of the knee-joint, where the whole synovial membrane is involved. The first thing is to expose the capsule very thoroughly, and this I do by means of two free longitudinal incisions, one on each side of the patella at a little distance from it, and I think it is best in the first instance not to open the joint. Having made out the limits of the capsule the tissues in front of the synovial membrane are carefully dissected off and the whole of the membrane behind the quadriceps is thoroughly exposed. The dissection is then carried to each side over the condyles, remembering that a fold of synovial membrane extends backwards for a considerable distance *over the surfaces of the* condyles; the lateral ligaments are then divided and the synovial membrane separated from them. The dissection is then continued inwards to the edge of the patella on each side and behind the ligamentum patellæ. The membrane is next detached all round where it is reflected on to the cartilages of the various bones and cut away as far back on each side as possible. The joint is thus freely exposed from the front and a fringe of synovial membrane is seen around the edge of the cartilages of the femur, patella and tibia; this is carefully removed, and then one may or may not connect the two longitudinal incisions by a transverse one over the patella, sawing that bone transversely. Usually I have not required to do this, but by dislocating the patella first to one side and then to the other I have been able to get free access to the whole joint. The crucial ligaments are next divided and thoroughly cleaned, or, if much diseased, removed, and special attention is directed to the condition in the intercondyloid notch. The joint being then forcibly bent the semilunar cartilages are removed and the dissection of the synovial membrane is resumed. It is quite easy as a rule to define the outer part of the synovial membrane on each side, and having done so separation is gradually effected by the finger or some blunt instrument between the posterior part of the capsule and the vessels and structures behind, *and this is continued till the points of re*flection of the capsule behind on to the femur above and the tibia below are well defined. The synovial membrane is then cut off at these points and the fringe around the cartilages carefully removed. Having now got away all the synovial membrane the ends of the bones are easily protruded through the wound and the cartilages carefully examined. If any depressions are seen they are carefully cleaned out; if they are loose or thinned anywhere that portion is removed along with a thin layer (quarter of an inch) of the bone beneath. Very often the cartilages are covered with a thin layer of soft tissue and this must be got away either by scraping the surface with the edge of the knife or by scrubbing it with a nail-brush. *If the cartilage is absent at any part and the* surface of the bone carious, a thin layer of the bone is cut away at that part, bearing in mind that the tubercular tissue only extends into the bone for about one-eighth of an inch; this layer can usually be removed by the knife. Of course if at any part the hole in the cartilage or the carious patch of bone is found to lead to a deposit in the bone that must be thoroughly cleared out. Having satisfied ourselves by fresh inspection that all the disease has been removed the wounds are closed, the crucial ligaments if left being stitched, and the patella if divided being wired. A drainage-tube is seldom necessary, or if used should be removed in two or three days. I think it is best in most cases not to use a tourniquet; it is easier without it to distinguish disease; the pulsation of the popliteal artery can be felt, which is of importance in dissecting out the synovial membrane posteriorly and the oozing from the wound is less. Subsequently no passive motion should be employed, and as there is a very great tendency to flexion in children a back splint should be worn for a long time, sometimes for years."

The procedure in other joints is essentially the same. In the hip it is necessary to add a posterior incision to the ordinary anterior one for excision. In the ankle good access is obtained by a long longitudinal incision in front of each malleolus, removing the anterior part of the synovial membrane in the first instance and then either removing the astragalus or dividing the malleoli in order to get access to the rest of the joint. Mr. Cheyne prefers the removal of the astragalus and has had several cases, all with most satisfactory results, the disease being eradicated and an excellent movable joint obtained; indeed it would be difficult to say in these cases that the astragalus had been removed. In the elbow longitudinal incisions over each condyle were recommended without division of the olecranon, care being taken on the outer side to avoid the posterior interosseous nerve. The wrist-joint is rarely affected in children and complete arthrectomy as distinguished from excision of the carpus cannot be done. In the case of the tarsus it is sometimes possible, by removal of individual bones with the surrounding synovial membrane, to cut short the disease at an early stage and obtain an excellent functional result. The lecturer had had several cases where it is now impossible to tell that anything had been removed. The lecturer then said: "The conclusion which seems warranted by all the facts is that arthrectomy is the proper radical operation in children up to fifteen or sixteen years of age and excision in patients who have reached their full growth. As regards the hip-joint a really complete arthrectomy is almost impossible, but in children I think that in many cases partial operations—such as clearing out abscesses, partial arthrectomy &c.—are often preferable to excision as regards the ultimate result, though no doubt there are cases where removal of the head of the bone is desirable. For example, in primary acetabular disease, with or without abscess, inside the pelvis satisfactory access can seldom be obtained without removing the head of the bone. Again, where the head of the bone is much diseased, or the epiphysial line destroyed by the tubercular deposit it is better to cut through the neck. And also in cases with septic sinuses where operation becomes necessary slitting up the sinuses, excision of the head of the bone and subsequent stuffing of the cavity with iodoform gauze is probably the best practice. Apart from the question of shortening, which is not so very great if only the head of the femur is removed, excision leaves a weaker and less stable joint than is obtained in other ways. In the case of the knee-joint arthrectomy possesses no advantage over excision as regards the immediate result. On the contrary, as a stiff joint is what one aims at, a firmer result will be obtained by excision: but in patients who have not reached their full growth the interference with growth after excision is so serious that it should not be undertaken. Certainly in young children excision of the knee-joint is not to be thought of for a moment. In adults, however, a better ankylosis is obtained by excision and in my opinion it is the preferable operation. In the case of the ankle arthrectomy, with or without removal of the astragalus—I think in most cases with—is the preferable operation for children and gives most satisfactory results. I have not had the opportunity of trying it in adults, as the cases of ankle-joint disease which I have lately had have either not been limited to the ankle or if requiring operation have necessitated amputation, but I should be very much inclined in a suitable case in an adult to perform arthrectomy with removal of the astragalus instead of excision. The remarks which I have made as regards the knee apply also in the main to the elbow. Arthrectomy is the operation for children and very satisfactory movement is thereby obtained. Excision is, however, I think a better operation for adults; movement is more easily obtained and the disease more readily eradicated. As regards the wrist and tarsus, complete arthrectomy is of course impossible, and in children I should do what I could with partial operations. Fortunately wrist-joint disease is not common in children, and in adults excision often gives a very good result. In the case of the tarsus in children it is sometimes possible, as I have already mentioned, to get an excellent result by removal of the affected bone and synovial membrane or of a healthy bone, such as a cuneiform, so as to get at the synovial membrane. The shoulder stands, I think, on the same footing as the hip in childhood, but it is essentially a disease of adult life, and in adults excision is the radical treatment."

THE ELIMINATION OF WATER AND THE PATHOLOGY OF DROPSY.

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In the debate on Dr. Dickinson's paper on Renal Dropsy[1] at the Royal Medical and Chirurgical Society on May 11th, I made a few remarks on these points, and I propose in this paper to state more definitely and distinctly what I know about the elimination of water from the body and the way in which I think it bears on the pathology of dropsy. To do this as completely as possible I shall examine the matter in its physiological, experimental, clinical, and pathological bearings, and shall point out that in physiology there are certain conditions to be met with every day in which though there is an excess of water in the blood and tissues of the body it is nevertheless unable to pass out either by the kidneys, the skin, the lungs or the glandular secretions; in other words, it is held back and retained in the body. In experimental work I shall point out that bearing in mind the physiological conditions that determine the excretion or retention of water it is possible to increase or diminish its excretion by the kidneys at pleasure. With regard to clinical work I shall point out that precisely the same thing holds in disease, and that, speaking generally, in pathology just as in physiology the urinary water is from hour to hour and day to day inversely as the uric acid excreted along with it. I shall further point out that the action of a large number of so-called diuretic drugs is due solely to their action on uric acid, and that certain disease processes which similarly affect the excretion of uric acid act in the same way as regards the elimination of water. Lastly, in pathology I shall show that the same factors which we have met with in physiology do here also account for the retention and accumulation of water in the body, and so for the most important point in the causation of dropsy, and that this knowledge of causation gives us very great power over the phenomena of disease. Before I begin I must state one point clearly, because it is the peg upon which all the rest hangs—namely, that, other things being equal, the urinary water is from day to day and from hour to hour inversely as the uric acid excreted along with it, because a part of the uric acid excretion passes through the general circulation and contracting the arterioles and capillaries prevents for a time the excretion of water. The first part of this statement is a fact which can easily be observed by anyone, and which, as I have pointed out in the *Journal of Physiology*, vol. xiii., is as well seen in the researches of others as in my own. The second part is my explanation of the fact, for the full discussion of which I must refer my readers to my book[2] (p. 100 and elsewhere).

In making the above statement I do not intend to pass over the action of other factors, such as perspiration and digestion, on the excretion of water, for I know very well that profuse perspiration may reduce the hourly excretion of urine to very small proportions indeed, and that during active digestion the excretion tends to be small, quite apart from the action of uric acid. Nevertheless, apart from the excessive action of these factors, the effects of uric acid on the excretion of water are generally plainly visible either from hour to hour or from day to day. To illustrate these points I will now give a few figures from my last six months' work at the excretion of uric acid and urinary water. Here we have 148 nearly consecutive days in which the hourly excretion of water in sixteen hours of the day ending 10.30 P.M. averages 54 cc., and in eight hours of the night 72 cc.

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[1] THE LANCET, vol. i. 1892, p. 1082.

[2] Uric Acid as a Factor in the Causation of Disease. J. & A. Churchill. 1892.

Now, it is well known that the excretion of uric acid is just the reverse of this, being most in the day and least at night; and in my book (previous reference page 16) there is a figure showing the large excretion of urates in the day hours and it further shows that when uric acid comes below urea the water at once rises. If we take single days out of the same 148 days the same thing is again seen. Thus I give five days in which the excretion of water was at its lowest and five days in which its was at its highest, giving the relation of uric acid to urea corresponding to each.

Date.	Water in cubic centimetres.	Relation of uric acid to urea.
Jan. 17th	840	1 to 22
Jan. 29th	900	1 to 17
Dec. 3rd	920	1 to 24
Jan. 7th	930	1 to 23
Feb. 6th	930	1 to 24
Oct. 28th	2100	1 to 30
Nov. 5th	2070	1 to 30
Oct. 16th	2000	1 to 32
Oct. 22nd	2000	1 to 32
March 9th	1990	1 to 36

Note.—Only the relative excretion of uric acid is here given for reasons which will be found elsewhere (Ibid., p. 12).

It will thus be seen that, though speaking generally, there is less uric acid when there is more water and *vice versâ;* they do not absolutely correspond, as there is less water with an excretion of 1 of uric acid to 36 of urea than with 1 to 30, and again there is more with 1 to 17 than with 1 to 22. But this is simply because other things are not equal; when there is no excess of fluid in the body relaxing the arterioles will not cause diuresis, and conversely when water has been held back for several days relaxing the arterioles will cause a correspondingly great diuresis and still more is this the case in dropsy, as we shall see presently. Still, other things being equal, the effect of uric acid is quite plain and distinct and the water is either from day to day or hour to hour inversely as the uric acid.

If we now turn to the experimental aspect of the question the same fact stands out even more clearly; for all drugs that hinder the solubility of uric acid and clear it out of the blood relax the arterioles and cause diuresis, and indeed not a few drugs whose diuretic action is well known owe this property entirely to their action on uric acid and so indirectly on the arterioles. Thus opium, mercury, iodide of potassium and other iodides, salicylate of soda, caffeine, and lithia salts, all produce more or less diuresis and diaphoresis, and all have this also in common—that they clear the blood of uric acid. Opium is often used, either alone or in combination, for its diuretic or diaphoretic properties. I have shown that it raises the acidity, diminishes the excretion of uric acid, and clears the blood of it.[3] A good deal has been written about the diuresis produced by mercury and I have shown that it forms an insoluble compound with uric acid, clears it out of the blood and relaxes the arterioles.[4] Iodides also are fairly well known as diuretics, and my researches show that at the time they cause diuresis they diminish the excretion of uric acid and clear it out of the blood, thus allowing the arterioles to relax. Further, the uric acid thus held back passes through the blood when the drug is left off, causing contracted arterioles, headache and scanty urine; in fact, a rebound, just such as is met with after opium, mercury, iron, lead, lithia, or any other members of this group. A good deal also has been written about the diuresis produced by salicylate of soda,[5] but its effects in this direction are entirely dependent on the fact that it clears the blood of uric acid. Unlike the drugs I have already mentioned, it clears the blood of uric acid, not by rendering it insoluble and retaining it, but by rendering it soluble and producing its elimination by the kidney, and a knowledge of this fact gives us the explanation of an important point in which the diuresis produced by a salicylate differs from that produced by the before-mentioned drugs. Take a dose of opium, mercury or an iodide, the diuresis they produce comes quickly within a few hours of swallowing the dose—i.e., they quickly clear the blood of uric acid and relax the arterioles; but with a dose of salicylate this is not so. Take fifteen grains of salicylate of soda three or four times in one day, the urine will not be at all profuse; on the contrary, it will be rather scanty. Continue the same dose next day and towards the end of the second twenty-four hours there may be a marked diuresis.

Now, the explanation of this is simple. On the first day of its action the salicylate meets with a large amount of uric acid and passes a great deal of it through the blood and out by the kidney. The arterioles are consequently contracted and there is no diuresis. On the second day, however, the immediately available supplies of urate run short and excretion falls down almost to the level of formation. There is but little urate in the blood, the arterioles can relax and diuresis results. If a patient has a large amount of urate in store the diuresis with salicylates may not occur till the third day, but in my own case it comes almost invariably about the end of the first thirty-six hours. It is evident then that the diuresis produced by a salicylate is not due to its direct action on the arterioles, but to its indirect action on the amount of urate contained in the blood and varies in accordance with the amount of this substance that it meets with. Precisely the same thing holds with the alkalies, soda and potash, as we shall see presently. Their first action is to increase the excretion of urates and the amount of these passing through the blood. The arterioles are therefore contracted and the urinary water is scanty. Later on, when they have eliminated most of the urate, the arterioles relax and there is a diuresis, or if the alkalies are left off this occurs at once, but as alkalies are much less powerful excretants of urate than salicylates the blood is not so quickly cleared of urate and the relaxation of arterioles and diuresis do not occur for several days. Caffeine is well known to cause diuresis. I have pointed out that it diminishes the excretion of urates and relaxes the arterioles. It is also well known to be useful in conditions of migraine and depression, no doubt from its action on the urates in the blood. Salts of lithia, again, produce a marked diuresis and this diuresis comes quickly, resembling that produced by opium, mercury and the iodides and differing from that produced by salicylates. But lithia salts act as alkalies, increasing the alkalinity of the blood and diminishing the acidity of the urine and we have just seen that the alkalies (soda and potash) increase the excretion of urates and diminish the urinary water. Here again, as in the case of salicylates, we have the most absolute proof that the scanty urine or diuresis produced by drugs is due not to their action on the vessels, but solely to their influence on the solubility and excretion of urates, which have a powerful influence on the vessels. What is the action of lithia salts on the excretion of uric acid? They greatly diminish the excretion of uric acid, clearing it out of the blood and relaxing the arterioles; hence they produce diuresis.[6] Soda and potash increase the uric acid and diminish the water.

I now come to a very interesting point in which my researches on these matters have been beautifully confirmed by those of others and where also what was a blank in my research has been filled in in a manner which leaves little to be desired on the score of completeness. For in a valuable note in THE LANCET[7] I find the following taken apparently from a thesis for the degree of M.D. of the St. Petersburg Medico-Chirurgical Academy under the heading "Effect of Alkalies on Metabolic Change." "As the effect of alkaline drugs on the nature of the metabolic changes which albumen undergoes in the system has not been satisfactorily worked out, Dr. Yavein has made a series of elaborate observations on the subject, employing citrate and carbonate of soda for the purpose. The daily quantities of the drugs administered were 300 grains or more. The result showed, as a rule, that there was but little effect on the assimilation or on the metabolic change of albumen. There was, however, a considerable increase in the neutral phosphates as compared with the acid phosphates of the urine. As a rule the loss from the skin and lungs was diminished and after the alkali had been discontinued the quantity of urine increased. The body weight increased while the alkali was being taken and decreased afterwards, the increase being probably due to the diminished loss of moisture and the decrease to the augmented secretion." I have quoted this annotation in full because almost every word of it bears importantly on what I am saying.

With regard to the effects of alkalies on the excretion of urinary water, I could have told Dr. Yavein all about this several years ago and I could also have told him the way in which they produce these effects. I could have told him also that they diminished the excretion of water from the skin and that in the glandular secretions generally. But I did not know (and if his observations are confirmed they will constitute a most valuable addition to our knowledge in many ways) that the loss of water from the lungs is diminished at the same time with that from the kidneys, the skin and the glands. If this is the fact, it shows at once that when uric acid contracts the arterioles it contracts them all over the body and not only obstructs the exit of water from the kidneys, the skin and the glands, but also from the lungs. If this is true, we come at once in sight of a possible explanation of the undoubted clinical connexion between phthisis, chronic bronchitis and asthma, on the one hand, and gout and Bright's disease on the other. I have always inferred that uric acid, when it contracted the arterioles of the general circulation, also contracted those of the lungs; but if Dr. Yavein is right, we have here a method by which this effect on the lungs can be estimated. It may interest Dr. Yavein to know that I have pointed out that the valuable researches of Dr. Lauder Brunton prove that drugs like digitalis which contract the arterioles, diminish or even completely arrest the flow of water from the kidneys, thus paralleling exactly the action of uric acid, to which I of course attribute his results with alkalies.

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[3] Ibid., p. [illegible] and elsewhere.

[4] Ibid., p. [illegible]

[5] Huber, in Deutsch Archiv fur Klin. Med., xli., p. 129.

[6] See Uric Acid, p. 29, and Med. Chir. Trans., vol. lxxi., p. 257.

[7] THE LANCET, vol. i. 1892, pp. [illegible] and 882.

With regard to the metabolism of albumens, on which Dr. Yavein apparently found that alkalies have but little effect, I have written a good deal, as indeed my whole explanation of the causation of Bright's disease hinges on the effects of urates on metabolism; and I would point out that if he is able to continue his researches in this direction he will probably find that the effect on metabolism is proportional rather to the amount of urate that an alkali meets with in the body than to the absolute dose of alkali. Thus if 300 gr. of carbonate of soda cause the excretion of 15 gr. of uric acid in one man and of 20 gr. in another the depression of metabolism will be more marked in the latter, though he only had the same dose of the drug.

As regards physiology and experiment we have now seen that in natural conditions the urinary water varies from hour to hour and from day to day inversely as the uric acid and that the excretion of water from the skin, lungs and the glands generally is influenced in the same way by the amount of uric acid in the blood. We have further seen that all drugs which clear uric acid out of the blood and diminish its excretion in the urine allow the arterioles to relax cause diuresis and a concomitant increase of the water excreted from all other glands and surfaces; while conversely all drugs which increase the urate in the blood and urine contract all the arterioles, rendering the urine scanty and diminishing the output of water from the glands and the surface of the skin and lungs. And, further, as I have shown that my law of solubilities[8] gives us power to increase or diminish at pleasure the amount of urate in the blood, we have it in our power to relax or contract the arterioles and thus can control to a very important extent the elimination of water from the body.

I shall now pass on to some clinical and pathological points and shall divide the conditions into (1) those in which there is an excessive excretion of urates with concomitant excess in the blood, and (2) those in which there is a diminished excretion. Under the first come migraine or the uric-acid headache in which there is, as I have shown, a *plus* excretion of urate corresponding to the attack, and with this *plus* excretion the urine is extremely scanty, as 30 to 40 cc. per hour; but when the attack passes or is driven off by the use of acids or other drugs which clear the urates out of the blood and urine, the water is profuse as 100 to 200 cc. in the same period of time—in other words, the water held back in the body during the period of uric acidæmia and contracted arterioles passes out at once as soon as they are relaxed. Precisely the same thing applies to attacks of epilepsy and hysteria; I have shown that the urate excretion is large and the water scanty during the attack and it is well known to be profuse as they pass off. The ordinary history of a case of gout illustrates very well the same point; between the attacks, as is well known the urate excretion is large, and if the water is saved from day to day it will be found to be scanty; but when an acute attack comes on it will be seen that with the first rise of temperature there comes a more or less profuse diuresis. I know of no condition in which there is such severe and prolonged uric acidæmia as in Bright's disease, and in acute cases the water is extremely scanty.[9]

In chronic cases it is also during the day rather scanty; but at night the blood is to some extent cleared of urate by the rising acidity, and then there is a profuse diuresis of urine of such low specific gravity that the urine of the whole twenty-four hours seems to be profuse and watery; but here, just as in physiological conditions, the water is to a large extent inversely as the uric acid.[10] It is also well known that the contracted arterioles of Bright's disease are completely relaxed by the onset of a febrile complication and a great diuresis may be the result of this;[11] before the fever the urine was 15 oz. to 16 oz. in twenty-four hours, with the fever it ran up to 80 oz. in the same period, and an extensive anasarca was quickly removed.

This brings me to Group 2, the cases in which there is a diminished excretion of urate, and in pathology this is generally due to causes which interfere with its solubility in the blood, and in nature, apart from drugs, this is generally due to a diminution of the alkalinity of the blood. Now it has been shown by Peiper and others, whom I have often quoted, that fever diminishes the alkalinity of the blood, and there is no doubt that it also increases the acidity of the urine. Therefore fever is the pathological condition in which there is least urate in the blood and urine, and it is well known that fever markedly relaxes the arterioles and the one effect is the result of the other. Now, if in any hospital patient the urine is being saved from day to day and the temperature has been for some time normal or subnormal, the onset of any fever will be seen to be accompanied by a more or less profuse diuresis, and this will continue so long as the fever continues to keep the blood free from urates on the one hand and so long on the other as there is any excess of water to be removed; hence though there is a diuresis in every case under these conditions, it is most marked in cases like the one mentioned above, where there is dropsy. To such an extent is this true that I would undertake to point out the days on which such a patient's temperature had risen, simply from the record of the water passed, provided no drugs affecting the problem had been given. To give an instance of this from recent clinical experiences I would refer to the so-called "diuretic action" of injections of fresh thyroid juice as used in cases of myxœdema. These injections cause a slight rise of temperature and relax the arterioles, and I have no doubt that the diuresis they produce, which is probably beneficial, is simply and solely due to the febrile movement, and might be brought about by the injection of any organic juice that produced a similar rise of temperature. Thus, I notice that my colleague, Dr. Davies, says in speaking of an interesting case of myxœdema which he showed at the Clinical Society, "The injections caused a gradual rise of temperature followed by diuresis."[12] I can show that a similar rise of temperature, however produced, would have the same effect; and as I have remarked in "Uric Acid," p. 118, the relaxed pulse which accompanies fever and the high tension and bradycardia which follow it, are directly due to the effects of fever on the alkalinity of the blood and the solubility of the urates it contains.

I could quote many more pathological conditions which the same facts will serve to explain, and indeed I meet with them every day; but from considerations of space I shall now pass on to say a few words on the bearing of these facts on the pathology of dropsy, and some points in Dr. Dickinson's paper on the subject. He speaks of the absence of dropsy in obstructive suppression, but this is not very extraordinary, for in this condition, as I have pointed out, the skin, the lungs and the glands generally are still free to excrete water; in acute Bright's disease the vessels all over the body are contracted, and water cannot get out anywhere until they are relaxed. In such cases I have been able to relax the arterioles and produce diuresis and the removal of anasarca by applying my knowledge of the solubility of urates. I cannot act so powerfully as nature did in the case above quoted; but the diuresis is certainly proportional to the relaxation of arterioles I produce by using some of the drugs I have mentioned. Again, Dr. Dickinson goes on to say in his abstract,[13] "Passing to chronic conditions a contradiction presents itself, for dropsy lessens with a further increase of arterial tension." It does not seem to me that this fact implies any contradiction, for in the diagram from Dr. Lauder Brunton's paper, which I showed at the time of the debate and which can be found in his work on "Pharmacology and Therapeutics" (third edition, p. 430) it appears that with the rise of pressure the excretion of urine increases, until a point is reached, the pressure continuing to rise, at which the arteriole contraction apparently overcomes the power of the heart, and then the excretion of urine sinks down to little or nothing. Now this, I take it, is what occurs in acute Bright's disease, sudden severe uric acidæmia contracts the arterioles and overpowers the heart; hence with moderately high tension the urine is scanty. In chronic disease, however, the tension is higher and yet the urine is profuse, because the heart has meanwhile acquired power to force the blood through the kidney in spite of contracted arterioles; the contracted arterioles only stop the flow when they are able to overpower the heart. Thus the prognosis in Bright's disease with low tension is most serious, because the heart is for some reason unable to acquire power to force the blood through the arterioles: hence also when the heart fails at the end of chronic Bright's disease, dropsy at once supervenes; the arterioles are contracted all the time; but the effect of this contraction depends on the power of the heart to counteract it. Even in Bright's disease the water varies in accordance with the same laws that hold in physiology, being most in the night when the uric acidæmia is least and the arterioles are most relaxed, and least in the day when the uric acidæmia is greatest and the arterioles most contracted and the pulse also, in accordance with Marey's law, is slower in the day and quicker in the night period, varying with the relaxation or contraction of the arterioles. Thus in a case of chronic Bright's disease whose excretions I recently estimated the water was on one occasion forty-four ounces in the twelve hours ending 8 P.M. and thirty-four ounces on another, and in the corresponding twelve hours ending 8 A.M. it was seventy-four and seventy-two ounces respectively. The specific gravity of the day urine was high, 1020 and above, while the mixture of day and night urine was rarely above 1010. Here the excretion of water at night was nearly double that of the day and I hope my readers will now quite understand the cause of this. I would remark in reference to such a case that if one had seen the day urine only and apart from the trace of albumen which it frequently but not invariably contained one might have reasonably doubted whether it was a case of chronic Bright's disease at all and this, I think, is an important point to bear in mind—viz., that a good specific gravity during the day is no proof of the absence of chronic Bright's disease.

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[8] Uric Acid, p. 60.

[9] As to the causation of this severe uric acidæmia, see Uric Acid, p. 225.

[10] Ibid.

[11] See case quoted in Uric Acid, p. 225.

[12] THE LANCET, vol. i. 1892, p. 976.

[13] Med.-Chir. Proceedings, April 26th, 1892, p. 112.

In conclusion I will merely restate my position that the elimination of water is dominated by the same law both in physiology and pathology and that the forces which in physiology cause a retention of water and an increase of body weight are the same forces that, acting more powerfully in pathology, cause dropsy and a greater increase of weight, and that the action of these forces can be demonstrated by the use of drugs, as is shown by my researches and those of Dr. Yavein which confirm them.

Brook-street, W.

CICATRICIAL STRICTURE OF PYLORIC END OF STOMACH:

FOLLOWING A BLOW ON THE EPIGASTRIUM; PYLOROPLASTY; CURE.

BY JAMES LIMONT, B.Sc., M.B.EDIN., M.R.C.P.LOND.,
AND
FREDERICK PAGE, M.D.EDIN., M.R.C.S.

History of the Case and Remarks by DR. LIMONT.

D. H——, aged thirty-one, a stonemason, was admitted to the Royal Infirmary, Newcastle-on-Tyne, in November, 1891, complaining of indigestion of fourteen years' duration. Up to the age of seventeen the patient had no trouble with digestion. One day fourteen years ago he received a severe blow from the shaft of a heavily laden "bogie," which had broken loose on an incline. The end of the shaft struck him with great force in the region of the stomach, and pinned him against a large stone. He remained in bed four days vomiting frequently, even fluids at once bringing on an attack. After a time he returned to work, but for almost a year he vomited nearly every evening, and suffered from pain in the region of the stomach. During the next six months he was free from all trouble. Since that time, however, he has been subject to recurring attacks of vomiting, with more or less pain. At first the attacks would last from two to three weeks, and the intervals from two to three months. During the last two years, however, the attacks have been more frequent, lasting three or four days, with intervals of not more than four days. Before admission to hospital he had become unable to work through discomfort and weakness. His weight, which a few years ago was eight stones seven pounds, was reduced to six stones nine pounds. He stated that his appetite was good, especially in the mornings, but that half an hour after eating he felt greatly distended and had a heavy dragging pain in the abdomen. At irregular intervals he vomited very large quantities of a sour character, bringing up at the same time much wind. After vomiting he was markedly relieved and soon became very hungry. If he then took a meal he suffered little inconvenience, but the subsequent meals gave more and more discomfort. The bowels were very confined. The stomach could be seen to be markedly distended and the usual signs of dilatation were made out. In the left nipple line the stomach extended from the fifth space to the level of the umbilicus and could be made out to reach two inches to the right of the umbilicus. Towards its pyloric end could be felt a small hard body about the size of the distal phalanx of the little finger; it was not tender and moved freely with respiration. The case was diagnosed as fibrous stricture of the pylorus, probably of traumatic origin. For a month the case was treated by daily washing out the stomach by means of an irrigator. No appreciable improvement followed, and operative interference was suggested to the patient. He, however, left the hospital, but returned in February weaker and more emaciated than before, and was transferred to the surgical wards.

That this is an example of traumatic stricture one can scarcely doubt, when regard is had to the form of violence, the succession of symptoms and the condition found during operation. I have been unable to find a record of a similar case. Dr. S. Fenwick refers to dilatation following blows, but says it is generally due to displacement of the stomach produced by adhesions. The stricture here must have existed for many years, its injurious effects being, however, greatly lessened by compensatory hypertrophy of the walls. Even at the time of the operation the thickness of the wall was found to be greater than normal. It is interesting to find that a stomach dilated for so many years can regain its normal powers. Apparently neither the muscular fibres nor the mucous membrane has undergone appreciable permanent deterioration.

Operation and Remarks by MR. PAGE.

On March 2nd, 1892, the patient's stomach having been washed out with a solution of boracic acid, the abdomen was opened by a median incision, extending from the ensiform cartilage to the umbilicus. On the anterior surface of the stomach, close to the pylorus, a puckering of the peritoneum was seen, about the size of a shilling. Beneath this puckering, and occupying an area of about twice its size, a hard mass could be felt in the substance of the stomach wall. Sponges were packed about the pylorus, so as to prevent blood and mucus escaping into the peritoneal cavity. The hard mass was then cut through with scissors and the incision *carried into the stomach* in one direction and into the duodenum in the other, beyond the limits of the induration. The mucous and peritoneal edges of the wound were then sewn together over the muscular coat with a continuous suture of fine silk. The left angle of the wound (ending in the stomach) was next secured to the right angle (ending in the duodenum) with a Lembert's suture of silk. This converted an incision which had been made almost at right angles to the long axis of the body into one nearly parallel to it. The wound was closed with a double row of Lembert's sutures and covered with a graft of omentum. The sponges were removed and the abdominal incision sutured with silkworm gut. The patient suffered very little inconvenience from the operation. He vomited a few hours after and has never been sick since. For eight days he was fed entirely by the rectum. On the ninth day fluids were taken by the mouth, and on the sixteenth he took fish and gradually returned to his ordinary diet. On March 31st (twenty-nine days after the operation) he weighed 7st. 8½ lb., having gained 1 st. 3½lb. He is now (June 12th) quite well, weighs 10 st., and has resumed his ordinary occupation.

Of the surgical procedures at our disposal for the treatment of stricture of the pylorus of a non-malignant character pyloro-plasty—the ingenious operation suggested by Mikulicz and Heinke almost contemporaneously—seems to be by far the most satisfactory in its results. It has been practised pretty extensively on the Continent and in America, and attention was drawn to the operation by Keen of Chicago[1] last February. I am not aware, however, that any case has been hitherto recorded as having occurred in England.

Newcastle-on-Tyne.

SOME POINTS IN THE ETIOLOGY AND PATHOLOGY OF DIABETES MELLITUS.

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DURING the last four years seventy cases of diabetes mellitus have come under my observation at the Manchester Infirmary and elsewhere, some of which have presented points of interest respecting the etiology and pathology that seem worthy of being recorded.

DIABETES AND THE NERVOUS SYSTEM.

CASE 1. *Marked ataxia of sudden onset; paralysis of right internal rectus; tremor of right arm; onset of diabetes seven weeks after commencement of symptoms.*—J. W——, aged forty-eight, was admitted under the care of Dr. Steell to the Manchester Infirmary on May 7th. 1890. Patient was quite well until April 26th. 1890. On the morning of that day, when going to his work, he suddenly became ataxic and fell to the ground. No loss of consciousness, no paralysis of limbs. He has been unable to walk or stand since, owing to ataxia. History of alcoholism; no syphilitic history. On admission, patient is unable to stand alone; when well supported he is able to advance a few steps and throws forwards his right leg in a jerky, irregular manner. Marked ataxia; no paralysis of limbs; no rigidity; knee-jerks present; no ankle-clonus. Right palpebral fissure smaller than left; apparent ptosis of right eye; paralysis of right internal rectus; left pupil larger than the right. Slight nystagmus; slight tremor of the right arm when the limb is supported. but this is more marked on voluntary movement. Optic discs normal. Old perforation of right tympanic membrane. Temperature normal. Urine 1015, acid. no albumen, no sugar, quantity normal.—June 12th: Amount of urine increased to 92 oz.—15th: Urine pale, clear, 1024, acid, contains a large amount of sugar.—23rd: Great thirst, voracious appetite. During the first three weeks of the diabetic symptoms the amount of urine varied from 160 to 190 oz. and the sugar from 3200 to 4200 grains daily. The amounts of urine and sugar were both diminished by restricted diet. A few months later several large carbuncles developed on the gluteal region. but in course of time these and the paralysis of the right internal rectus, the ptosis and nystagmus disappeared. The diabetic symptoms, the tremor of the right hand and the ataxia persisted.

CASE 2. *Tumour of the pituitary body.*—A. H——, aged twenty-three, was admitted under the care of Dr. Ross to the Manchester Infirmary on Nov. 16th, 1890.[2] History of headache and gradual enlargement of hands and feet; symptoms of acromegaly. Temporal hemianopsia of the right field of vision; in the left field vision entirely lost, with the exception of a very small area near, but a little to the temporal side of, the centre of the field. Urine 1035; no albumen, no sugar; loaded with urates. After remaining in the hospital for several weeks the specific gravity of the urine rose to 1045, and it was found to contain sugar by Fehling's test, by the phenyl hydrazin test and also by fermentation. The amount of sugar at first was fourteen grains to the ounce; the amount of urine normal. The sugar gradually increased in amount. The patient left the hospital for several months and then returned on account of an abscess which had developed in the left breast. She was admitted on the surgical side under the care of Mr. Southam. The patient complained of thirst and on examination of the urine a large amount of sugar was found. The abscess was opened and treated antiseptically and the patient put on diabetic diet. The thirst, however, increased and five days later the patient died of diabetic coma. The temperature remained practically normal. At the post-mortem examination a round-celled sarcoma of the pituitary body was found, which pressed on the optic chiasma, and in which the left optic nerve was embedded. The rest of the brain was normal. The thyroid was a little enlarged and contained a colloid cyst. There were changes in the pancreas, which will be afterwards described. Liver enlarged; weight 5 lb. 2 oz.; signs of fatty degeneration.

The following is a good example of *diabetes following an injury to the head*:—

CASE 3.—M. A. R——, aged eighteen, was admitted under the care of Dr. Steell to the Manchester Infirmary. The patient was a strong, healthy, stout girl up to the time of an accident seven months before admission. On going downstairs she suddenly slipped and fell down thirteen steps, the top of her head coming violently in contact with a door at the bottom of the steps. She was stunned by the fall, but did not lose consciousness. A dish which she had in her hand at the time was broken in the fall and her face was cut by the broken porcelain just below the right eye. She received a deep cut on the flexor surface of the right forearm just below the elbow. She had great pain in the head for many hours after the fall and has frequently suffered from severe headache since. Two weeks after the accident she first noticed thirst, which was soon followed by wasting. On admission, the patient was emaciated; knee-jerks absent; urine acid, 1045, no albumen; large amount of sugar present (twenty-three grains to the ounce); marked brownish-red colouration with Fe_2Cl_6. During the time the patient was in the hospital the amount of urine at first varied from 80 to 90 ounces daily; later from 56 to 68 ounces daily, with increase of sugar to 33 grains per ounce.

The next case is one of diabetes following great mental anxiety, in which purulent *cerebro-spinal meningitis and multiple abscesses in the liver* were found post portem. It is difficult to say what was the relation of the cerebro-spinal meningitis and liver abscesses to the diabetes. Even supposing these changes were due to some complication, they are so rare as to be not unworthy of brief record. A similar case is published by Frerichs.

CASE 4.—J. R—— came under my care on Sept. 28th. 1890. History of an attack of vertigo and vomiting in February. 1890. Five weeks later he began to be troubled with thirst and polyuria. He had been unemployed for eleven months; had lost a large sum of money and been subject to great mental anxiety before onset of diabetes. He had obtained employment, however, at a bleaching works about one month before he first noticed diabetic symptoms. A brother died of diabetes. When first seen the patient was considerably wasted. He suffered from thirst and polyuria. Urine 1032. acid; large amount of sugar present (1 cc. of urine contained 0·0517 gramme of sugar); no albumen. Knee-jerks absent. Commencing cataract in each eye. Bowels regular. Heart. lungs, liver and spleen normal. Four months later he was admitted as an in-patient at the Manchester Infirmary under the care of Dr. Ross. During the time he was in the hospital (six weeks) the amount of sugar varied from 2500 to 4800 grains daily and the amount of urine from 90 to 130 oz. From his admission (Jan. 21st, 1891) until Feb. 24th the temperature was normal. At the latter date the evening temperature was 102° F.—Feb. 25th: Patient complained of pain in the epigastrium. Urine contained for the first time a trace of albumen, and also gave for the first time a dark reddish-brown colouration with Fe_2Cl_6. Bowels constipated. For the next three days the evening temperature was between 102° and 102·8°; then for four days the evening temperature was between 99° and 100°.—March 4th: Evening temperature 102°; pulse 96; respiration 25.—5th: Morning temperature 99·6°; evening 103·2°.—6th: Morning temperature 101·2°; evening 100·2°. Patient complained of pain in the right hypochondriac region. Edge of liver felt about one inch and a half below the ribs. No jaundice; no rigors. Patient became very restless and semi-conscious. Knee-jerks absent; calf muscles tender; no paralysis; no anæsthesia. He could be roused to answer questions until just shortly before his death at 2 A.M. on March 7th. Shortly before death the pulse was 224; respiration 72. No discharge from ears or symptoms of suppurative otitis media during the patient's illness.

Necropsy (abstract).—Peritoneum, pericardium, heart and aorta normal. Lungs, adhesions at right apex; small patch of broncho-pneumonia on left lower lobe and another at right apex. Left apex puckered; several small calcareous nodules and cicatrices. Kidneys normal; suprarenal capsules, medulla of each congested; two small yellowish nodules in medulla of right capsule. Spleen slightly enlarged and pulpy, weight eleven ounces. Pancreas (weight two ounces and a half) somewhat small and firm. Liver (weight five pounds), capsule normal; on section scattered irregularly throughout the right lobe, but most numerous in the outer half of the right lobe, are a number of small abscesses varying in size from a pea to a marble. Near the right border these are clustered together so as to form a large suppurating patch four inches transversely by two inches and a half vertically. The pus can be washed away, leaving small cavities. At only a few places is there any zone of hyperæmia around the abscesses. Gall-bladder contains a small amount of orange-coloured bile; mucous membrane slightly congested, but no ulceration can be detected. No obstruction of cystic, hepatic or common bile-ducts. Large bile-ducts can be traced in liver substance for a considerable distance, but nothing abnormal detected. No thrombus in portal vein or any of its larger branches. Stomach: no ulceration or other abnormality of importance. Rectum, prostate and bladder normal. Spinal cord; dura mater normal. On opening dura mater, meninges of posterior surface of cord, in dorsal region, very turbid and yellowish in colour; in cervical and lumbar region, turbidity not quite so well marked. Vessel of posterior aspect of cord much distended; only slightly distended in anterior aspect. Turbidity of meninges on anterior surface. On section of the cord nothing abnormal detected. Cord hardened in Müller's fluid. Sections in all parts normal to the naked eye (excepting meninges); microscopical examination confirmed the diagnosis of purulent lepto-meningitis. Skull cap, cerebral dura mater and blood sinuses normal; base of skull, including regions of petrous portions of temporal bones, normal. Meninges of each cerebral hemisphere turbid and yellowish; distinct suppuration at the sulci. At the anterior part of the first left frontal convolution is a hæmorrhage about the size of a halfpenny, irregular in shape, situated between the arachnoid and the cortex; and passing down between the convolutions, but not entering the brain substance. The meninges of the upper surface of the cerebellum present the same appearance of purulent meningitis as those of the cerebral cortex. The membranes of the base of the brain appear normal. A small amount of turbid fluid is present in the lateral ventricles and a small amount of pus in the posterior horn of the left lateral ventricle. In the fourth ventricle nothing abnormal detected. Apart from the changes just mentioned the rest of the brain—basal ganglia, cerebral hemispheres, cerebellum, pons and medulla—appear normal. Microscopical examination confirmed the naked-eye appearances of purulent lepto-meningitis. Sections of the pons and medulla showed slight dilatation of the vessels at the floor of the fourth ventricle, but no other microscopical changes.

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[1] Medical Press and Circular.

[2] This patient's symptoms were the subject of a clinical lecture published by Dr. Ross in the International Clinics.

In the history of some of the seventy cases of diabetes there were several other points of interest. Thus great mental anxiety and worry due to loss of money, loss of employment &c., were antecedents in nine cases. In one case the symptoms came on whilst the patient was preparing for the Final B.A. Examination Lond. For a long period he had devoted almost the whole of his time, with the exception of that required for sleep and meals, to the closest study. In one case the patient had been subject to epileptic fits for several years.

As regards heredity, in one instance three sisters all suffered from diabetes. In six other cases there was a family history of diabetes. In eight cases there was a long history of very great alcoholic excess up to the time of onset of diabetic symptoms. In two cases the symptoms came on during an attack of pleurisy. In another case diabetes came on during prolonged lactation; marked wasting soon occurred and the patient died about twelve months after the onset of symptoms. I have notes of another case, in which diabetes followed a mammary abscess soon after confinement. In one case symptoms of diabetes came on during influenza, in another case during a severe cold.

DIABETES AND LESIONS OF THE PANCREAS.

Changes in the pancreas are of great interest, since Minkowski and v. Mering showed by their famous experiments in 1889 that diabetes could be produced in dogs by total extirpation of the pancreas.[3] I have examined the pancreas in four cases of diabetes.

CASE 1. *Marked cirrhosis of the pancreas.*—T. L——, aged forty-five (under the care of Dr. Ross at the Manchester Royal Infirmary). Diabetes mellitus, with wasting. Peculiar pinkish tinge of the urine. History of great alcoholic excess. Death by coma. Necropsy: Pancreas weighed four ounces and a quarter; was very hard and was cut with difficulty. Section showed to the naked eye that the organ was infiltrated with dense fibrous tissue, in which small masses of the remaining gland tissue were embedded. There were several small cystic dilatations of the pancreatic duct, containing small calculi and mucous fluid. Microscopical examination showed a very great excess of fibrous tissue. In some places almost the whole of the field of the microscope was occupied with dense fibrous tissue. At some parts small clusters of pancreatic cells, at other parts small lobules of degenerated pancreatic tissue, were seen embedded in the fibrous tissue. With the exception of a cavity and other tubercular changes in the right lung examination of the liver, brain and other organs revealed nothing of importance.

CASE 2. *Atrophy and fatty degeneration of the pancreas.*—T. S—— (under the care of Dr. Mackenzie, Victoria Hospital, Burnley). Diabetes with wasting. Death by coma. Necropsy: Pancreas markedly atrophied, exceedingly soft and flabby, weight one ounce and a quarter; on section studded with pale spots. Microscopical examination of sections stained with osmic acid showed marked fatty change, especially at the pale spots. At many parts the pancreatic cells contained small fat globules. Mingled with these degenerated cells were fat cells, some small, others very large. In some parts the fatty changes occupied the centre, at other parts the periphery of a lobule.

The pancreas in the case of A. H—— (tumour of the pituitary body), above described, was very large and heavy. It weighed six ounces. Microscopical examination showed a marked excess of interlobular fibrous tissue, which in some parts was richly supplied with nuclei. In this interlobular connective tissue many large clusters of fat cells were embedded, also in the interior of many of the lobules, groups of large fat cells were scattered. Whether the diabetes in this case was produced directly by the tumour of the pituitary body or indirectly through secondary pancreatic changes it is impossible to say.

In the case of J. R——, above described, the pancreas appeared normal microscopically.

[To Drs. Steell, Leech, Ross, Dreschfeld and Mackenzie, and to Mr. Southam I am indebted for kindly giving me the opportunity of observing some of the above cases.]

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

ON THE TREATMENT OF CLOTTED BLOOD IN THE BLADDER BY AN EVACUATOR.

BY H. A. LEDIARD, F.R.C.S. ENG.,
SURGEON TO THE CUMBERLAND INFIRMARY.

ON somewhat rare occasions the surgeon has to deal with troublesome hæmorrhage into the bladder, where the blood in place of mixing with the urine and passing out naturally becomes clotted, and where further bleeding goes on so as to cause a painful distension of the bladder. In such a case a catheter is passed without affording relief, for the eye of it is instantly plugged. Bleeding continues owing to the presence of clot much in the same way as post-partum hæmorrhage lasts, so long as a clot prevents contraction of the uterus. Among the causes of intra-vesical hæmorrhage villous tumour occupies the first place, for the bleeding is sometimes rapid and the clotting firm; other malignant growths bleed, but, perhaps, less severely. Hæmorrhage is associated with enlarged prostate and ruptures of the bladder, but in the latter most of the blood will be intra-peritoneal. Hæmorrhage after lithotomy is usually external, but according to Erichsen venous hæmorrhage after lithotomy is apt to find its way back to the bladder and may coagulate and distend that organ. Whatever the cause may be, the object held in view is to empty the bladder, and this is by no means easy, for clots will not pass through an ordinary catheter, even when a stream of water is now and then injected down the catheter to keep the eye clear; neither will clots pass through a large catheter attached to an evacuating bag. So excellent a lithotrity evacuator as Morgan's has proved quite useless in my hands when the bladder has become distended with clotted blood. Some stronger suction power is needed than the recoil of an indiarubber bag. and all that is wanted is a brass ear syringe. some rubber tubing. and a large evacuating catheter of Bigelow's kind. In this way the bladder is rapidly cleared out; but in order to facilitate the operation I have adopted the ordinary stomach pump syringe, for with it the bladder can be emptied without disconnecting the rubber tubing at the end of each suction. in order to empty the syringe. With the double nozzle of the stomach syringe the apparatus will allow of the bladder being cleared and washed out at the same time without disconnecting the rubber tubing. As it may be convenient to have these instruments ready at hand for emergencies I have had a stomach pump syringe, some rubber tubing and a large-eyed. large-sized evacuating catheter put together in a case by Down Brothers, St. Thomas's-street, Borough, S.E.

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[3] For discussion of the relation of lesions of the pancreas to diabetes, and for complete notes of the cases of T. L—— and T. S——, see paper in Medical Chronicle, March, 1892.

Cumberland.

"NOTES FROM A PRACTITIONER'S CASE-BOOK."

By Hughes Reid Davies. M.R.C.S.. L.R.C.P.Lond.

Under the above heading. in The Lancet of July 2nd, Dr. Howard Murphy notes an interesting case of dislocated patella. and in concluding his record observes: "I have not been able to find any mention of such a dislocation of the patella (if it deserves such a title) in any of the text-books." A precisely similar case occurred in my own practice in June, 1891, and whilst I administered ether to the patient—a lady of about seventy years of age—Mr. Jonathan Hutchinson, jun., reduced the dislocation, the reduction producing a "loud snap," as in Dr. Murphy's case. Dr. Murphy's experience and mine are peculiarly similar. My patient. like his, had mounted a chair for the purpose of adjusting a window blind, the shifting of which caused the leg to twist in some unexplained manner and the rare dislocation to occur. The after history was equally favourable. I remember there was considerable doubt at the time as to how the lower border of the patella became so firmly fixed, but I do not recollect that any very satisfactory conclusion was arrived at.

The salicylate treatment of chorea.—I have had complete success in the salicylate treatment of the chorea of children. especially when accompanied by a mitral murmur; but of chorea in adults I have had no experience.

My round of general practice has been singularly rich in interesting "cases" during the last two or three years. a few of which I might briefly note perhaps without being deemed tedious.

Infantile intussusception.—Two of these cases I have been able to successfully reduce—under an anæsthetic—by perflation per rectum with an ordinary Higginson's syringe. To the first I was called in consultation by Dr. J. C. H. Dickinson, whilst the other occurred in my own practice, and both cases came under my notice within the space of a year.

Floating kidneys.—Of these I have had many. sometimes single and once double. One case became an in-patient at the London Hospital, under the care of Mr. Treves. with a view to fixation of the kidney. The interest in this case was further advanced by the fact that whilst under operation a fair sized renal calculus was discovered and removed. But of this case I am hardly justified in speaking. as doubtless Mr. Treves has it on record.

Foreign bodies removed.—1. A needle-case from a virginal vagina. 2. A large plug of coarse tobacco, encased in wax, from each ear of a commercial traveller—a Devonshire man. He was much troubled by tinnitus aurium and almost complete deafness, both of which symptoms were immediately relieved by removal of the foreign bodies. This patient informed me that he distinctly remembered some thirty years back being treated for earache by the west country method of plugging the ear with tobacco. Therefore, upon his own showing. the length of time during which the foreign bodies had remained in his meatus was thirty years. 3. Two saloon-pistol bullets, one from the thecal eminence, the other from the flexor surface of the first phalanx of the third finger. 4. A needle, after a year's residence, from the hand of an old lady of eighty-five. 5. The complete metallic portion of an etching-pen, at least two inches in length, which was situate for three weeks in a vertical position about one-sixteenth of an inch from the deep palmar arch. 6. Complete occlusion of right nasal passage by a foreign body for thirteen years,[1] &c.

In conclusion I may say that one can hardly call "general practice" *monotonous* with such a list.

Bow-road, E.

FRACTURE OF THE UPPER JAW WITH MALAR DEPRESSION.

By George Wherry, M.C. Cantab., F.R.C.S. Eng., &c..

UNIVERSITY LECTURER IN SURGERY, CAMBRIDGE.

Fracture of the upper jaw with malar depression occurs so frequently at football, and is so easily overlooked, that I call attention again to the subject, and mention a case as an illustration. A fortnight ago an athletic undergraduate called upon me and stated that he could do no reading on account of headaches, which he considered to be the sequel of a football accident five weeks before. He stated that during a match he was knocked senseless by the charge of a player, whose head struck him full upon the prominence of the cheek. Vomiting followed after a short period of unconsciousness and then apparent recovery. On examination there was a yellow stain about the left lower ocular conjunctiva where it had been bloodshot; no other sign of ecchymosis was present. The left malar prominence was slightly depressed as compared with the other side, and an irregular chink could be felt along the orbital margin. There was a very evident line of fracture to be felt on placing the finger inside the cheek on the malar process of the superior maxilla. The patient had not been able to bite on that side since the accident, and there was a remarkable gap which prevented the first molar from touching the lower teeth on that side, a condition which was probably a mere coincidence. There was a patch of numbness in the cheek. but not that definite area of anæsthesia which is found after injury to the infra-orbital nerve. Neuralgia had lately kept him awake at night.

In cases which I have briefly recorded among others to illustrate the effects of blows upon the malar bone,[2] though there was fracture of the jaw with malar depression. yet not more shock and not more ecchymosis could be discovered than is usual in an ordinary black eye, but a slight deformity was permanent. Other cases were followed by serious results, as orbital abscess. paralysis of the infra-orbital nerve, or serious head symptoms suggestive of fractured base. An interesting case is recorded by Mr. Holmes of a gentleman who, after a fall, received a fatal brain injury. An orbital ecchymosis during life exactly resembled that which attends fracture of the base of the skull was found after death to be due to a fracture of the malar bone near its junction with the frontal. In every case which comes under observation after a blow upon the malar prominence an examination should be made of the orbital ridge, of the malar process of the upper jaw and the zygomatic arch on the injured side. The finger in the mouth passed up beneath the cheek will readily detect any fracture of the malar process. The injury above described should be considered of interest and importance like a head injury, and. however trifling it may appear, should not be looked upon lightly.

Cambridge.

EMPHYSEMATOUS VAGINITIS.

By H. E. Wright, L.R.C.P.Edin., M.R.C.S., J.P., &c.

Dr. Herman, in The Lancet of June 6th, 1891, describes a case of what he calls emphysematous vaginitis, and he remarks upon the rarity of this disease in England within the past few weeks. I have had a case in my practice here which seems to be closely allied to Dr. Herman's, especially to those cases which he quotes from German literature. Although I did not verify the presence of gas in the vesicles. it is quite possible it may have existed in some of them, as I did not pay particular attention to the point. The following are notes of the case:—

Mrs. ——, aged twenty-seven. had been under my care for endocervicitis and erosion of the os uteri for nearly three months. On Sept. 2nd she came to me to have the last application of nitrate of silver made to the cervix, and on passing Ferguson's speculum I noticed the vagina was studded with white spots, some of the size of a hempseed, others that of a small pea. The spots were milky white and about a third of an inch apart. A close examination showed them *to be vesicles, and in adjusting the speculum some of* the vesicles were ruptured and a watery, opaque fluid exuded. The ruptured vesicles left small pits in the mucous membrane. The cervix was quite free from the vesicles, which were most abundant in the upper two-thirds of the vagina, the lower third and the vulva being unaffected. I had never seen such a condition of the vagina before and I have a large practice in diseases of women. The milk-white spots suggested the oidium albicans, but closer examination clearly showed the spots to be true vesicles. The patient and her husband were surprised when I informed them of the condition of the vagina, which apparently had given rise to no special symptoms. I applied the nitrate of silver as usual to the cervix and left the vagina alone. Three days after this the husband came to me and said that his wife complained of an irritating watery discharge from the vagina and some burning of the passage and itching of the vulva. I prescribed, without again seeing the patient, some borax and glycerine, to be used in warm water as an injection two or three times a day. I heard nothing more of my patient for about ten days, when her husband came to consult me about himself. He said, "I have got the same complaint which my wife has just had. It came on a few days after I had connexion with her, which was the day before she came to you." I had advised him not to have intercourse with his wife until the vagina should have regained its healthy condition. On examining the husband, I found the whole surface of the glans penis excoriated in small spots or patches; there were no vesicles, but the condition of the glans was very suggestive. I must mention that the irritation and soreness of the penis had existed for *one week prior to this visit. There was slight redness of the* orifice of the urethra and occasionally some slight burning in passing urine. There was no discharge, either water or pus. I prescribed a lead lotion and in a few days he was quite well. I regret that I did not examine some of the vesicles for the oidium albicans, as their milky whiteness and rapid disappearance after using a lotion of borax and glycerine convince me that I might have been successful in my search.

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[1] The Lancet, Nov. 15th, 1890.

[2] Practitioner, Sept. 1891; Camb. Med. Soc. Proc., 1889.

Greytown, Natal.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

ST. THOMAS'S HOSPITAL.

CASES ILLUSTRATING THE TREATMENT OF RECURRENT PELVIC PERITONITIS BY ABDOMINAL SECTION; REMARKS.

(Under the care of Dr. CULLINGWORTH.)

WE continue and conclude this week the series of instructive cases of recurrent pelvic peritonitis commenced at page 20 of our last issue. We have already published four of the cases and as this week we give the remarks of the operator, advise our readers to refer to those cases before reading the remarks. As Dr. Cullingworth points out, it is impossible to prevent the occasional formation of a fæcal fistula after the separation of adhesions which are so firm as those found in the patients under his care and others of a similar character.

CASE 5.—J. L——, aged *thirty-one*, a primipara, by occupation a nurse, was admitted into Adelaide ward on March 3rd, 1892, suffering from pain in the abdomen and sickness. Previous history: In November, 1890, the patient strained herself in her efforts to put out a fire and for a week afterwards she complained of dragging pains in the lower part of the abdomen. At the end of this time, whilst out walking, she was suddenly seized with acute pain in the abdomen, went home in a cab, being unable to walk on account of the pain, and at once went to bed. Two days later, the period being then a fortnight overdue, she began to lose dark-coloured blood from the vagina copiously and suffered from vomiting, constipation and retention of urine. On Dec. 18th, 1890, she was admitted into the ward complaining of hæmorrhage and pain and with a distinct abdo*minal swelling. A diagnosis of intra-peritoneal hæmatocele* and right hæmato-salpinx was made and an operation advised but declined. She left the hospital on Jan. 14th, 1891, still losing blood. The loss continued till April, when it ceased. A month later she menstruated normally and has remained regular since. In October she noticed a yellow vaginal discharge, and experienced pain in the back and left iliac region, which continued to trouble her for some months; her general health, however, did not suffer, and she remained at her duties as an infirmary nurse till February of the present year. In the first week of February last (her period being due) she experienced a sudden sharp attack of abdominal pain and tenderness, accompanied by vomiting. Her period came on the same day, the flow being much more profuse than usual. She remained in bed for eight days and then got up and resumed her duties; her period had ceased, but the pain in the abdomen continued and was aggravated by any unusual exertion. Three weeks after the commencement of the above attack there was a sudden exacerbation of pain, with vomiting and hæmorrhage. She remained in bed for a week and says her temperature reached 104° F. on one occasion. At the end of the week she was readmitted. On examination the abdomen was rigid and there was considerable tenderness over the lower part and especially in the left iliac region. Per vaginam, the right fornix was normal in height; the left was depressed by a firm, irregular, tender mass, the size of a duck's egg, occupying the left posterior quarter of the pelvis and displacing the uterus slightly forwards and to the right. The uterus was movable and slightly enlarged, its canal measuring three inches. Similar but smaller masses were felt behind and on the right. No evidence of *any separation could be detected between them.* The urine was normal and the temperature 101·4°. Three weeks later—viz., *on March 24th—the patient had not improved* and the physical signs remained unaltered. The abdomen was opened and the pelvic viscera were *found obscured from view* by adherent omentum and intestine. After these had been separated the left Fallopian tube and ovary were found to be enlarged, inflamed and densely adherent. During the process of separation, which was tedious and difficult, the diseased ovary was ruptured and its purulent contents (about two fluid ounces) escaped. There was a small non-suppurating cyst of the right ovary. The right tube was adherent, but not diseased. After removal the collapsed ovary measured two *inches* by an inch and three-quarters and its wall was acutely inflamed. The abdomen was thoroughly douched and drained *for forty-eight hours.* Convalescence was complete and unmarred by complications. The patient was discharged on April 18th, feeling quite well, the abdominal wound having been completely healed for over a fortnight. She reported herself a month later, and was then in good health.

CASE 6.—A. C——, aged thirty-nine, married, was admitted into Adelaide ward on March 29th, 1892, complaining of abdominal pain and uterine hæmorrhage of three weeks' duration. Previous history: She began to menstruate at the age of eleven and has always been regular, the flow being somewhat profuse and lasting from five to six days. She married in 1881, when twenty-seven years of age, and has had one child, born the following year. She married a second time at Easter, 1887, having been a widow a little over twelve months, and has not been pregnant since. She enjoyed good health till Easter, 1891, when she was confined to bed for a fortnight with pain in the lower part of the abdomen. She quickly recovered from this attack and remained well till three weeks ago, when she again suffered from pain in the lower part of the abdomen and left iliac region. The last menstrual period had ceased fourteen days previously. On the following day she had a flooding with aggravation of the pain and the bleeding continued, gradually diminishing till March 24th, when it ceased. *The pain, however, continued to be severe* and compelled her to keep her bed. During the last three weeks she has also complained of loss of appetite, diarrhœa and vomiting. On admission she was a well-nourished woman, complaining of constant pain in the lower part of the abdomen and of flooding, which had recently stopped. The abdomen presented nothing abnormal on examination, except some slight tenderness and resistance in the left iliac region. Per vaginam both lateral *fornices* were found depressed, the right more than the left. Uterus normal in position, but slightly enlarged. The sound passed two inches and three-quarters. In the right posterior quarter of the pelvis a firm irregular mass could be felt about the size of a hen's egg. On the left side there was considerable resistance, but no definite tumour. The thoracic organs were normal. Temperature 98·6°. The urine contained a decided trace of albumen.

On April 7th the abdomen was opened. The omentum was firmly adherent to the anterior abdominal wall and to the back of the uterus; there were also adhesions between the uterus and intestine which were troublesome on account of their density and vascularity. After these had been separated the right Fallopian tube was discovered dilated and flaccid, and when traced backwards and downwards it was found to be continuous with the enlarged ovary, which was lying deeply in Douglas's pouch, embedded in adhesions. With great difficulty these parts were freed, brought to the surface and removed; about three fluid ounces of blood-stained non-offensive pus escaped from the ovary during the manipulations. The adhesions were very vascular and bled freely when broken down. The left appendages were adherent but otherwise normal and were not interfered with. The peritoneal cavity was douched with hot boracic lotion and the bleeding checked. A glass drainage-tube was introduced and the wound sutured with silkworm-gut sutures. The portion of the tube removed was irregularly enlarged and contorted, four inches and a half in length, the fimbriated portion was completely occluded by its adhesion to the diseased ovary, but there was no communication between the two. The mucous membrane of the tube was swollen and acutely inflamed and covered with thick, yellow, inoffensive pus. The ovary measured two inches and a half by two inches and contained several distinct loculi lined by an inflamed membrane and full of pus. Convalescence was somewhat impeded by a fæcal fistula which made its appearance on the morning of the fourth day after a severe attack of vomiting the previous night. Fæcal matter and occasionally flatus continued to escape from the wound in gradually diminishing quantity for a month, when the escape ceased and the wound healed. She was discharged on May 26th feeling quite well. On June 3rd the patient presented herself on account of the sinus having reopened. There was a free discharge of inoffensive pus, the patient's health otherwise was excellent.

Remarks by Dr. CULLINGWORTH.—Recurrent pelvic peritonitis in the female is, in the immense majority of cases, an indication of the presence of pus either in the Fallopian tube or in the ovary, or in both. It therefore almost invariably calls for surgical treatment, for the anatomical position of the tube is such that pus once poured out cannot drain away as it can from most of, if not all, the other mucous surfaces of the body, whilst in the case of the ovary the imprisonment of the pus is, if possible, even more absolute. The six cases forming the above series happened all to be in the ward at the same time. They were all admitted for acute pelvic inflammation and at least four of the patients were extremely ill. The history showed that in all but one of the cases there had been previous attacks, proving the presence of some chronic source of irritation. No one who saw the cases or who reads the foregoing abstracts, carefully prepared by my house physician, Mr. Banks, can doubt that operative interference was the best method of dealing with the cases and in some of them was probably the only possible means of saving life.

How do the contents of an ovarian cyst become infected? What determines their suppuration? There seems good reason for believing that the most common channel of infection is the Fallopian tube. Given cystic disease of the ovary and suppurative inflammation of the Fallopian tube (whether septic or gonorrhœal), there is strong evidence in favour of the view that the process of suppuration may be set up in the contents of the ovarian cyst by the passage of infective micro-organisms from the diseased tube. Case 1 is a good example of this method of infection in a case of gonorrhœal salpingitis. But this is not the only source of infection. For instance, in Case 2 it is more than probable that the suppurative process in the ovaries was due to contamination from the vermiform appendix, which was found in a condition of the most acute inflammation and so adherent to the wall of one of the cysts as to be apparently embedded in it. It will be noticed that in two of the cases fæces made their appearance in the discharges from the abdominal wound during convalescence: in one case on a single occasion only, in the other (Case 6) during thirty successive days. The liability for temporary fæcal fistulæ to occur after abdominal operations where the intestines have been seriously involved in the adhesions is well known. It is due to the ease with which the intestine gives way when its wall is rendered soft and friable by inflammation and its external support is lost by the removal of parts to which it has been adherent. Under such circumstances the strain produced by a fit of laughter or of coughing or the act of vomiting is quite enough to burst the bowel and permit the escape of flatus and fæces. Fortunately it is an exceedingly rare event for a fistula so formed not to heal spontaneously. It must not be supposed that the fact of there having been an escape of fæces in two out of the six cases is any real indication of the proportion of cases in which this accident ordinarily occurs, for these six cases were all of more than average difficulty and severity and the intestines in most of them participated to a more than usually serious extent in the general pelvic inflammation. One important lesson brought home to us by these histories is the wonderful tolerance of the peritoneum. The peritoneum may be soiled by the spilling of fetid pus and even by the passage of fæces over it for many days together without injury, provided ample means of exit exist by which the offensive material can be quickly got rid of by the intra-abdominal pressure. In every one of the six cases purulent material escaped more or less freely into the peritoneal cavity, owing to rupture of the thinner and more densely adherent portions of the cyst wall during the process of separation, and in no instance did any constitutional harm result. Again, in Case 6 fæces passed over the peritoneal surface for thirty successive days without any perceptible ill effects. It may be said, in reference to the bursting of the cysts, that it was the subsequent irrigation that prevented injury. I am a profound believer in the value of flushing of the peritoneum, but I cannot think that it is effectual to the extent of washing the surface absolutely clean. It is, in my opinion, sound practice to ensure free subsequent drainage for at least some hours whenever pus has escaped, so that any portion that may remain after the flushing and sponging may find an easy way out. The powerful force of intra-abdominal pressure is then usually quite equal to the task of effecting its expulsion. For the same reason free drainage should always be provided when there is the least ground for fearing the escape of the intestinal contents. If they are thus provided with a means of exit they will avail themselves of it without delay and the danger of peritonitis will be avoided. Another lesson taught by these and similar cases is that the method that was here adopted of removing the cysts entirely is infinitely to be preferred to that of merely emptying and draining the abscess cavity and then stitching the cyst wall to the edges of the abdominal incision. The presence of the most formidable adhesions ought not to deter the operator from attempting the more complete operation.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH.

TWO INSTRUCTIVE RENAL CASES.

(Under the care of Dr. CLAY, Mr. WHIPPLE and Dr. PRANCE.)

BOTH these cases are important, as the real cause of the patient's serious condition was in Case 1 not diagnosed until the disease was very advanced; in Case 2 the kidney was never considered to be the primary cause of the patient's serious condition. In Case 1 death occurred whilst the patient was still under the influence of the anæsthetic, which was A.C.E. mixture; chloroform had been given at first, but when the patient was anæsthetised A.C.E. mixture was administered instead. The patient became convulsed and cyanosed and pulseless in a few seconds. She had never had fits during her childhood or pregnancy. The left kidney presented the appearance of a pyonephrosis due to calculus, the renal structure had entirely disappeared and the walls of the abscess cavities were quite smooth. The ureter was very thick, but its lumen was small. The pelvis was very much altered and filled up with fibrous tissue. In Case 2 there was nothing during the latter part of the patient's life to lead one to suspect kidney trouble. No tumour could be felt in the loin and nothing was found in the urine. Post-mortem examination showed how it was his condition was overlooked. The ureter was blocked; the abscess cavity had emptied itself, partly into the colon, and partly had made its way into the base of the right lung, where acute miliary tuberculosis had been set up. In both of these cases there was well-marked compensatory hypertrophy of the other kidney, showing that if the diseased kidney had been removed there would still have been enough renal tissue left to be compatible with life. For the account of these cases we are indebted to Mr. A. Stanley Thomas, house surgeon.

Case 1 (under the care of Dr. Clay and Mr. Whipple).—F. W——, aged twenty-nine, married, was admitted on April 12th, 1892, with the following history. Two months previously she had been delivered at full term of a stillborn child. She had enjoyed good health throughout her pregnancy, except during the last two weeks, when she suffered from pains in her legs. She got over her confinement very well and was up and about on the fourteenth day. After that she began to suffer from pain in the left side, which was thought to be due to pleurisy, but not until a month later did she notice anything amiss, when she found that the left loin was very swollen. The urine was examined, and was said to contain pus.

On admission she was extremely thin and pale and looked very ill., Temperature 101°F.; pulse 130. She complained of pain in the left hypochondriac region, which was markedly swollen and extremely tender. Dulness extended in the left flank from the seventh rib in the mid-axillary line downwards to the crest of the ilium; behind, it extended from the vertebral column forwards to within three fingers' breadth of the umbilicus. The swelling was very tense and no fluctuation could be obtained. Urine was acid; sp. gr. 1014; it contained abundant phosphates, no albumen or pus, and nothing was found by microscopic examination. No increase in frequency of micturition.

On April 13th her condition was much the same; temperature 100·4°. She had passed twenty.four ounces of urine in the previous twenty-four hours. It was acid; sp. gr. 1014; no pus. On April 14th, her temperature having been between 100° and 102° since admission and her condition having in no way improved, she was recommended to have the swelling in the left loin explored. That afternoon she was given chloroform; when fully under the influence of this anæsthetic A.C.E. mixture was given throughout the rest of the operation. An incision parallel to the last rib was made in the left loin and very offensive pus was evacuated. A second abscess cavity was then opened above the first and similar pus escaped. Both cavities were irrigated with boracic-acid solution and a large drainage-tube was put into both cavities and the wound was then dressed with carbolic-oiled gauze and wood-wool wadding. The administration of A.C.E. mixture had been stopped for quite a minute when the patient, who had been breathing well all through the operation, became quite suddenly convulsed and cyanosed, the pupils became dilated and the radial pulse, which had previously been good, suddenly ceased and the patient never regained consciousness in spite of every restorative means being applied.

At the post-mortem examination, which was unfortunately not a complete one, the capsule of the left kidney extended from the brim of the pelvis upwards to the seventh rib. In front the colon and small intestines were adherent. The kidney substance was replaced by abscess cavities, the walls of the cavities being smooth, the contents thick fetid pus. The pelvis of the kidney and the perinephritic tissue were extremely thick and the opening into the ureter was very small, but the lumen was not at all dilated. The sac and the remnants of the kidney weighed one pound two ounces. The right kidney weighed eight ounces and was quite a healthy hypertrophied organ.

Case 2 (under the care of Dr. Prance).—R. E——, aged thirty, a labourer, was admitted on March 9th, 1892, with the following history. About a year ago he began to suffer from pain in the back and in the legs; he got gradually weaker, but not until early in February of this year did he take to his bed. On March 2nd he had his chest aspirated and a small quantity of pus was withdrawn from the right side. He had no history of any urinary trouble, and there was no history of phthisis in his family.

On admission he was very emaciated and complained of pain in the right side of the chest. He had a very troublesome cough: his expectoration was very offensive, but rather scanty. There was dulness over the right base and diminished vocal fremitus. On auscultation, fine râles and bronchial breathing were heard over this area. Respiration 22; temperature 98·6°. On palpating the abdomen nothing could be felt; patient complained of pain in the back; urine high coloured; sp. gr. 1014, acid; albumen present; no pus or blood. Microscopic examination revealed nothing. There was a superficial abscess over costal cartilages on the right side.

On March 10th the abscess was opened below the twelfth costal cartilage. It contained gas and most offensive pus. Its cavity ran upwards between the liver and diaphragm. It was washed out and a drainage-tube put in, and then dressed with carbolic oiled gauze and wood-wool wadding.

March 11th.—Had a better night. Has lost all pain in right side. Dressed. Breathes through the opening beneath the twelfth rib. The patient's condition was now thought to be due to an empyema, which had perforated the lung and diaphragm.

12th.—Not so well. Will not take any nourishment.

14th.—Bowels were opened three times. Motions very offensive and liquids resembling pus.

15th.—Patient became comatose and died early this morning.

At the post-mortem examination the incision made beneath the twelfth rib communicated with a perinephritic abscess. This abscess had extended upwards between the diaphragm and liver, the former had been perforated and the surrounding lung tissue was consolidated and affected with miliary tubercle. The rest of the right lung was normal, except that there were a few small calcareous nodules at the apex. The left lung also had signs of old tubercle at the apex. The abscess sac was adherent in front to the colon and had ulcerated into it in one place; the colon contained pus similar to that found in abscess. The right kidney weighed 10½ oz. and on section it was found to be riddled with abscesses, the walls of which were rough and irregular; and the contents varied from caseous material to thick yellow pus. The upper part of the ureter was dilated; five inches from the bladder it was kinked or twisted and at this spot the lumen was completely blocked. The left kidney weighed 12 oz. and was composed of quite healthy kidney tissue. There was no other sign of tuberculous disease.

Reviews and Notices of Books.

A Text-book of the Practice of Medicine for the Use of Students and Practitioners. By R. C. M. Page, M.D., Professor of General Medicine and Diseases of the Chest in the New York Polyclinic; Visiting Physician to Randall's Island Hospital, St. Elizabeth Hospital, the Polyclinic Hospital, and the North-Western Dispensary Department of Diseases of the Heart and Lungs; Member of the New York Academy of Medicine and the New York Pathological Society, &c. New York: William Wood and Co. 1892.

We do not think that we can do better than quote the substance of some remarks from the author's preface to this work in order to describe its nature, design and general scope. He says that the chief objects in preparing the volume have been to facilitate clinical instruction and enable both the physician and student to obtain in brief the most practical as well as scientific view of the various subjects treated in it. Students in medical colleges and those who visit New York and other medical centres for the purpose of taking a supplementary course in clinical medicine, as well as the busy practitioner, often find that they have not sufficient time at their command to sift out desired information on any given subject from extensive treatises and systems. While such books are necessary and invaluable, it is believed that a shorter work is called for and will prove a valuable aid. Only the chief points in pathological anatomy, for instance, are given, and if further study in this direction is necessary recourse must be had to works specially devoted to the consideration of such subjects. On the other hand, the author has gone more fully than usual into detail regarding treatment, not only naming the drugs found useful but in many instances giving the prescription and dose. It is unquestionable that such books have their use, and the busy practitioner must frequently apply to a practical and compact work in which he can obtain the information he needs in a concise and condensed form, together with such methods of treatment as have been practically tested and approved. It would be obviously unfair therefore to compare this work, as regards completeness and variety of information, with such treatises as the Dictionary of Practical Medicine by Various Writers, edited by Dr. J. Kingston Fowler, for example; but Dr. Page has succeeded on the whole in his Text-book of the Practice of Medicine in attaining the objects he has set forth in his preface. The book is illustrated, divided into eight chapters, and supplied with a table of contents, and a fairly sufficient, though short, index. The first chapter deals with Diseases of the Heart and Blood-vessels, and the information seems to be well put together and clearly set forth in the sixty-eight pages devoted to this subject. The chapter on Diseases of the Respiratory Organs is full. We notice that the author does not regard croup and diphtheria as one and the same, but as utterly different and distinct diseases. The symptoms of the former are those of catarrhal laryngitis, until stenosis takes place, when they are the same as those of diphtheritic croup. The one disease is a croupous inflammation of the mucous membrane of the larynx prevailing in certain damp, low-lying places exposed to north-east winds, and never infectious or contagious and *not* usually attended with the more severe constitutional symptoms and swelling of the lymphatic glands accompanying diphtheria. The author's description of and remarks upon pulmonary emphysema are to the point. We are glad to observe that he devotes attention to fibroid phthisis as a separate form or variety of chronic phthisis, but there is reason in Sir A. Clark's objection to its being regarded as invariably tuberculous (bacillary) in nature. The remarks on pleurisy with effusion and empyema are practical and sound. Diseases of the liver are fairly well described, but the description of suppurative disease of that organ is very meagre. In his chapter on Acute Infectious Diseases the author treats in a condensed and practical way of typhoid fever, and has some judicious remarks on the futility of giving large doses of quinine as an antipyretic. He alludes to the failure of large doses of ipecacuanha as a remedy in acute dysentery as the result of their experience of it in Bellevue Hospital in 1888; but we are glad to notice that he adverts to the use of aperients in the early stages of the disease, in which, by the way, he appears to have an earlier recourse to opium and to have greater faith in an opium treatment than the experience of others would indicate. The part devoted to Diseases of the Nervous System is not so full, scientific, and precise as could be desired.

As our readers will have already gathered from our remarks, we regard Dr. Page's book as a good digest of the practice of medicine. It is written in an easy, natural style and the author's aim has evidently been to aid the practitioner in recognising and treating the various diseases he may be expected to encounter in the practice of medicine as it exists to-day.

Microscopical Observations on the Hæmatozoon of Malaria, with an Appendix containing a Series of Plates of Illustrations and Descriptions. By Surgeon PATRICK HEHIR, M.D., F.R.C.S.Ed., Lecturer on Pathology and Clinical Medicine to His Highness the Nizam's Medical School and at the Afzul Gunj Hospital, Hyderabad.

IN this monograph the author endeavours to do for malaria in India what has been done for it in other countries. After describing the methods and instruments employed and mentioning that 2231 slide preparations of malarial blood were examined (of which 1490 were from fifty cases systematically and daily examined from the date of entrance into hospital to the date of discharge, cured), Dr. Hehir goes on to describe the various parasitic forms met with; of these he mentions spores, small amœboid organisms, spherical bodies, hæmatomonas malariæ stellata, intra-corpuscular bodies, crescents, hyaline bodies, spores, rosettes and amœboid bodies, flagellated organisms and various pigmented and phagocytic cells. He then gives a description of these various forms and an account of their development. The author agrees with Dr. Vandyke Carter that visible blood contamination may be more constant and uniform than concurrent pyrexial phenomena, and from this he argues that such contamination is fundamental, whilst the fever is rather a contingent event. He considers that the hæmatozoa of malaria have a local destructive influence on the red blood cells, but that they set up fever "by the action of some poisonous substance, possibly a ptomaine, acting as a stimulant upon the heat-generating centres." He also maintains that there is no excessive formation of leucocytes and that the pallor of the blood when drawn is due to a decrease in the hæmoglobin present in the red corpuscles. Quinine does not effect the immediate dissolution of the organism, although it frequently arrests the recurrence of the fever, "showing that the action of the quinine is not altogether direct on the parasite, or at least not directly lethal." The plates, though rough and in one case somewhat eccentric, indicate fairly well the author's ideas of the appearances presented by these organisms.

Les Anomalies Musculaires considérées au point de vue de la Ligature des Artères. Par L. TESTUT, Professeur d'Anatomie à la Faculté de Médecine de Lyon. Paris: Octave Doin. 1892.

THE arterial anomalies which are of importance to the surgeon have been fully described in such works as those of Quain, Tiedemann and Henle, and it is most exceptional that any undescribed deviation is now observed which can in any way affect the procedure of the surgeon who has had a fair experience in the dissecting-room and who is at all familiar with anatomical literature. In these works and in scattered papers and monographs by other anatomists some other anatomical peculiarities which have a direct bearing on surgical practice are pointed out, and the frequency of their occurrence often noticed, but muscular irregularities have been more especially studied from the standpoint of the morphologist or the comparative anatomist than from their relations to practical surgery, although this has not been altogether neglected. Professor Testut has therefore done a great service to the practical surgeon who may at any time have to ligature an artery in its continuity by pointing out in a serial order these various anomalies in so far as they affect the ligature of the different arteries and thus filling up, as he truly says, a serious omission in our text-books on operative surgery. The large arteries which he has found to be occasionally covered by supernumerary muscular bands of surgical importance are the brachial, the axillary, the subclavian, the internal mammary, the popliteal, the posterior tibial and the peroneal. As an example of the method in which the author deals with the subject we may refer to the ligature of the subclavian at the base of the posterior triangle. He points out that after cutting through the skin, platysma myoides, superficial and deep cervical fascia, the operator may come upon numerous muscular bundles running in different directions which are not mentioned in ordinary works on practical surgery or most of the students' text-books on general anatomy. These bundles may be due to a forward extension of the trapezius on the clavicle, to a clavicular attachment of the omo-hyoid or to the existence of a cleido-occipital, a levator claviculæ, a supra-clavicularis or to supernumerary fibres of the sterno-hyoid. Each of these varieties is discussed in detail and the same plan is followed in the case of the other arteries. The author has met with no muscular anomalies which would affect the ligature of the carotids, the radial or ulnar, the iliacs, or the femoral or the anterior tibial, and has therefore left them out of consideration. The small quarto of forty pages, published at 8 francs, is illustrated with twelve plates showing forty-one varieties. These are excellently drawn in chromo-lithography and are mostly taken from Professor Testut's own dissections; they will well repay the scientific surgeon who devotes a little time to their study so as to supplement that everyday anatomical knowledge which is usually considered to suffice.

A Practical Treatise on the Diseases of Women. By T. Gaillard Thomas, M.D., LL.D. Sixth Edition, Enlarged and thoroughly Revised by Paul F. Mundé. London: J. & A. Churchill.

Dr. Mundé has performed a by no means easy duty fairly well, having recognised the difficult nature of bringing out a sixth edition of the "Practical Treatise" of Dr. Thomas, who, however, granted to the reviser the power to change, omit or add to the original text. This book has long been regarded, especially in America, as one of the most important text-books of the diseases of women on account of its clearness and apparent simplicity. In this edition we have a work combining the experiences of both these distinguished gynæcologists, for all the chapters have been largely altered, many of them entirely rewritten, and several new chapters have been added. Great advances have been made since the last appearance of this work in 1881, and we naturally expected to find in this edition more in the way of recording facts than in retaining many of the speculations which encumbered previous editions and in this we have not been disappointed. We think, however, that in some chapters too much of the old matter has been retained; for instance, we find five pages occupied with the subject of the employment of tents, to which is added a short note by Dr. Mundé indicating that Dr. Thomas's present opinion is that "tents of all kinds should be discarded in gynæcology, absolutely and completely" and rapid dilatation should always be practised by preference. Dr. Mundé, however, would be sorry to part with the tupelo tent where slow dilatation is required. In the preface it is stated that the work is designed for students and general practitioners, but owing to the differences of opinion sometimes expressed, as on page 491, in describing the treatment of pelvic peritonitis it must be rather difficult for a student to discover the principles underlying the prescribed treatment, seeing that the interpolated notes signed by Dr. Thomas and others more or less contradict the statements bearing the initials of Dr. Mundé. It is upon the whole an excellent treatise, but we consider that in many parts it is too verbose, and that if Dr. Mundé had acted on the authority given him by the author and omitted certain passages it would have been a more acceptable book both to students and to busy practitioners. The work is well got up and the illustrations, numbering 347, are beautifully executed.

Darwin, and After Darwin. An Exposition of the Darwinian Theory and a Discussion of Post-Darwinian Questions. By George John Romanes, M.A., LL.D., F.R.S. 1. The Darwinian Theory. London: Longmans, Green and Co. 1892.

The present treatise, the author tells us, has grown from two courses of lectures delivered at the University of Edinburgh and at the Royal Institution. These two courses resembled each other in comprising between thirty and forty lectures, but differed largely in other respects; and seeing that the present treatise has grown much beyond the bulk of the original lectures, it has been deemed desirable to publish the whole in the form of three separate works. The first, dealing with the purely historical side of biological science, stands over for an indefinite time; the second is the one now brought out and is devoted to the general theory of organic evolution as this was left by the stupendous labours of Darwin; and the third portion will follow (probably in the autumn season) under the sub-title "Post-Darwinian Questions." It scarcely needs saying that the work, when completed, promises to afford the most comprehensive survey of the whole subject up to the latest date from the hands of one of the ablest, most logical and most original of the exponents of the doctrines of Darwinism. The second part dealing with the Darwinian theory consists of 450 pages and is profusely illustrated. That which is to follow on Post-Darwinian Questions will probably demand extended notice, but we do not think that this part calls for any long criticism from us. All acquainted with the author's name and labours will be prepared to find that the facts connected with organic evolution are well arranged and lucidly stated, so as to evolve and lead up naturally and not arbitrarily to the line of reasoning and conclusions he has to set forth. Mr. Romanes says that as the present volume is simply intended to be a systematic exposition of what may be termed the Darwinism of Darwin and is likely to be of more service to general readers than professed naturalists, he has been careful to avoid assuming even the most elementary knowledge of natural science on the part of those to whom the exposition is addressed. Although this may be quite true, and the style adopted is as simple, precise and clear as practicable, and technical expressions have been for the most part avoided, still it has not been possible to do so altogether. The book requires much clear-headed intelligence and continuity of attention on the part of the general reader, who must be possessed of a good deal of elementary knowledge, scientific aptitude and "a love of the thing," if he is thoroughly to appreciate all the facts and the cogency of the reasoning—in the chapter on embryology, for example.

The introductory chapter contains some brief but excellent allusions to the subjective and inductive methods of research, to the revolt since the sixteenth century against the former and the disproportionate value assigned to Bacon's share in the movement, and to what the author terms the bugbear of speculation, which led to the idea that science ought to consist in a mere observation of facts or tabulation of phenomena without any attempt at theorising upon their philosophical import. The minds of naturalists were more or less bound and tied by the chain of these traditional notions, touching the severance between the facts of natural history and the philosophy of it, until the publication of the "Origin of Species" in 1859 set them free. It was in this, as in so many other respects, that it was an epoch-making book. Darwin was the Newton among naturalists, and in his eyes the value of facts was due to their power of guiding the mind to the discovery of principles. He was eminently painstaking and candid, with a sagacity in observation, a penetration in the interpretation of facts and phenomena that amounted to genius. Not facts or phenomena, but causes and principles are the ultimate object of scientific quest. To his predecessors the discovery or accumulation of facts was an end, to him it was a means; and the importance of Darwin's method of scientific speculation and of his exposition of the evidences of organic evolution as a fact and of natural selection as a cause were not circumscribed within the limits of a study of natural history. They had other and far-reaching influences. The late John Stuart Mill, for example, was not a naturalist, but a philosopher, and yet, indirectly, what a difference there would probably have been in his speculative methods of treatment of many subjects if he had lived and commenced to write after, instead of before, Darwin's doctrines had been propounded and investigated as they have now been.

Mr. Romanes shrewdly points out that some naturalists of the present day who have grown up in a Darwinian environment have more or less thoughtlessly adopted some form of Darwinian creed of a dogmatic kind, which, while it usually incorporates the main elements of Darwin's teaching, still more usually comprises serious perversions of their consequences. Be this as it may, Darwinism is only concerned with the origin of particular forms of life—the origin of species. The theory of descent starts from life as a *datum* already granted, about the origin of which science is not at present, and possibly never will be, in a position to furnish so much as a suggestion. It deals with the evidences of evolution and the scientific theory of natural descent—continuity in natural causation.

The second and third chapters deal with Classification and Morphology and are clearly written and well illustrated. Chapter IV. on Embryology we have already alluded to. Chapter V.—Palæontology—is very well done and interesting, and is naturally followed by one on Geographical Distribution. The two serve to illustrate the general law laid down by Mr. Wallace that "every species has come into existence coincident both in space and time with a pre-existing and closely allied species." The second section is devoted to the theory and evidences of natural selection and to a consideration of the criticisms on that theory, and the last chapter treats of sexual selection with concluding remarks. An appendix, together with notes and a good index, completes the volume.

The book is an able one and seems to be clearly, candidly and philosophically written; it contains a large amount of interesting and curious information and it is well illustrated, many of the illustrations being quite new. We can only add that we have personally derived both pleasure and profit from its perusal.

New Inventions.

NEW CLINICAL THERMOMETER.

Ferris's "Perfect Non Plus Ultra" Clinical Thermometer has no contraction in the stem and no chamber to contain superfluous mercury, consequently the whole of the mercury gets thoroughly warmed at once and the temperature is not only recorded more accurately than before but in half the time. The divisions and figures are brought down close to the bulb, so that without increasing the length of the instrument the scale of the thermometer is rendered nearly twice as open as before and is much more easily and accurately read. Ferris's "Perfect Non Plus Ultra" clinical thermometer has a permanent magnified index and a certificate of corrections ascertained by comparison with the standard instruments at Kew Observatory. The Kew corrections are marked on the stem of every thermometer.

THE ASSOCIATION OF FELLOWS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

The annual general meeting of the Association of Fellows of the Royal College of Surgeons of England was held at 5 P.M. on the 30th ult. at the rooms of the Zoological Society, 3, Hanover-square, W. Mr. T. Holmes, Vice-President of the Association, took the chair, and in expressing his regret for the unavoidable absence of the President of the Association, Mr. George Pollock, said that Mr. Pollock had been obliged to leave town on that day for the purpose of attending the funeral of Sir William Aitken at Netley. The minutes of the last annual meeting having been read and confirmed, the hon. secretary, Mr. Percy Dunn, stated that he had received upwards of fifty replies from Members of the Association respecting the postcard which had been issued announcing the annual general meetings, the annual dinner and the candidature of the nominee of the Association, Mr. John Tweedy, for a seat on the Council of the Royal College of Surgeons. Nearly all these replies were expressive of regret at being unable to attend the meeting and of determination to support Mr. Tweedy at the election on the 9th inst. A telegram to a similar effect from Mr. Mayo Robson was also read. The hon. secretary read the auditors' report, which was received and adopted, a balance in favour of the Association being shown.

Mr. Holmes then delivered an address reviewing the proceedings of the Association as comprised in the report which has been recently issued to its members as well as to the Fellows of the College generally. Amongst other things he dwelt forcibly upon the inexpediency of the action of the Council of the College in coming to a decision upon subjects important both to the Fellows of the College and to the profession at large without consulting their constituents. Such matters, he said, ought to be discussed publicly at the College by the body corporate in the face of the profession and ought not to be decided secretly by twenty-four Fellows in an upper room. He instanced especially the scheme for coöperating with the University of London in examining for degrees and also the scheme for the fulfilment of the five years' curriculum. Referring to a recent assertion that the Association of Fellows was a political body, he repudiated it altogether and said that the Association had nothing whatever to do with politics. The Association had to meet a hostile feeling in certain quarters, but always conducted its business with the strictest regard to the feelings of those who were opposed to it. Mr. George Jackson moved and Mr. J. J. Purnell seconded the adoption of the report and this was carried unanimously. Mr. Alban Doran moved a resolution pledging the Association to use its utmost efforts to secure the return of Mr. Tweedy at the ensuing election at the College. He observed that many able men, after election to councils, never succeeded in understanding procedure and never gained a fair knowledge of by-laws. All who had served on the councils of Societies were aware of this fact. Yet, in order to make a good councillor, skill in procedure and a full knowledge of by-laws were imperative. Mr. Tweedy was one of the very few persons who had a full knowledge of the intricate Charters and by-laws of the College of Surgeons and his ability at public meetings was well known. He would prove a valuable addition to the Council. The resolution was seconded by Dr. W. J. Collins and carried unanimously.

In thanking the meeting for the resolution just passed in his favour Mr. Tweedy said that, as was well known, he had been reluctant to come forward as a candidate, but that he had acceded to the request conveyed to him because he took the warmest interest in the success of the Association, whose only object was to secure the best form of government at the College of Surgeons.

The election of officers for the ensuing year was then proceeded with. Mr. Rivington moved that the present officers and members of the Committee of the Association be re-elected and that the names of Mr. T. B. Keetley, Mr. George Jackson of Plymouth, Mr. Vincent Bell of Rochester, Mr. George F. Helm of Cornwall and Mr. Purnell of Streatham be added to the committee. Vacancies had been created by the decease of Mr. William Adams of Regent's-park and the retirement of Mr. Lawson Tait. It was desirable that the committee should be as representative as possible and it was a great advantage to have Fellows from different parts of the country serving on the committee. It had been suggested to him that he should give an account of his stewardship at the College, but it would be very inexpedient and improper to "reveal the secrets of the prison house." He could not go beyond the published minutes of the proceedings of the Council. From these it would be gathered that progress was being made. Some might desire that the Council of the College should advance rather faster and less like the traffic on a suburban line, but everything now depended on the Fellows themselves. A most important concession had been made by the Council of the College—viz., that meetings of Fellows apart from the Members would be called for consultative purposes whenever the Council thought it desirable and also on a requisition from a certain number of Fellows. This concession was the cardinal point in all reform and if properly utilised would lead to all the other concessions which the Fellows of the College as a body might think desirable. The motion having been seconded by Mr. J. E. James of London was put to the meeting and carried unanimously. A vote of thanks to the chairman terminated the proceedings.

The annual dinner of the Association took place in the evening at the Criterion. Mr. Wm. Allingham occupied the chair. The attendance was curtailed in consequence of the alteration of the date of the dinner originally fixed for the 23rd ult., the Oxford and Cambridge cricket match, and the funeral of Sir Wm. Aitken. The chairman gave the usual loyal toasts and proposed "Success to the Association." In responding to the toast of "The Association Candidate," Mr. Tweedy gave an interesting account of his connexion with the reform movement at the College. The proceedings did not terminate till after 11 P.M.

THE LANCET.

LONDON: SATURDAY, JULY 9, 1892.

SCARLET FEVER is causing anxiety in the metropolis by reason of the large number of attacks removed to the hospitals of the Metropolitan Asylums Board; and it is not unnaturally assumed that this exceptional number of hospital patients indicates a corresponding excess of scarlet fever amongst the population. If we were to consider fatal attacks alone, the cause for anxiety would not be so great. Thus, the largest weekly numbers of scarlet fever deaths in London during the past month were 29, 28, and 21 respectively in the three weeks ending June 18th, June 25th, and July 2nd, these exceeding the average by eleven, nine, and four deaths for the weeks in question. This is in itself not especially alarming. Still there is cause for anxiety in the fact that we have only just entered on the period when scarlet fever usually commences its seasonal rise. So far as attacks apart from fatal cases of scarlet fever are concerned, there does not yet exist much information as to seasonal activity; but Dr. WHITELEGGE, dealing with 23,000 attacks in nine large towns where compulsory notification existed, has shown that a very rapid rise has commonly set in towards the end of July, that it has continued to increase during the months of August and September, and that the maximum has been attained in mid-October, after which date a distinct decline has set in. During the twelve weeks ending June 25th over 5000 cases of scarlet fever were notified in London, the weekly number of attacks ranging from about 350 to somewhat over 550; and not only so, but the number notified during the last few weeks of that period exceeded by over 100 those notified in the previous four weeks. We are therefore, whilst only at the beginning of a critical seasonal period, in face of a substantial increase in the number of scarlet fever attacks. What this may mean it is at present difficult to say, for the reason already given, that we have no trustworthy experience as to the significance of attacks apart from deaths on which to base any precise opinion.

Another element of uncertainty lies in the circumstance that an amount of isolation in hospital is in progress such as London has never before experienced, and that this isolation is going hand in hand with administrative measures of prevention exercised by the local authorities such as have never before been practicable. During the month of June some 2100 to 2200 fresh cases of scarlet fever were certified, and we now learn that no less than 2460 cases were under isolation in the hospitals of the Asylums Board at the beginning of the present month. This is a remarkable achievement, and if we could believe that all attacks are notified and that the average detention of the patients in hospital was for a period of some six to eight weeks, it would mean that considerably more than one-half of the scarlet fever patients of London have been removed from localities where they would otherwise have become centres of infection, it being largely those who are better circumstanced in this respect who have been allowed to remain in their own homes. And this is not all. Disinfection of rooms and clothing very generally follows removal to hospital, and much the same measures are adopted in other attacks on the recovery of the patients. Such measures are becoming more and more general, whilst notification provides means of information as to where these measures can and ought to be applied, which has not formerly been available. Further, notification in the metropolis is followed by information to school authorities as to the danger involved in allowing children from infected houses to associate with fellow pupils in school. This measure must be expected to remove a principal means of infection which has hitherto prevailed. Indeed, our experience of scarlet fever prevention under the existing circumstances of the metropolis are such that a forecast becomes unusually difficult; and the measures of isolation now available both in London and at the Gore Farm Camp, to which some 600 convalescents can be removed, give us reason to hope that we have means at hand which may enable the authorities to cope, as they have never done before, even with so rapid a rise in the number of attacks as marks this very critical period of the seasonal activity of the disease.'

We cannot close these remarks without uttering a warning. When scarlet fever is thus generally prevalent it becomes a habit to look upon every fresh extension of the disease as one which is taking place in the commonly accepted method by aerial diffusion from person to person, assisted, perhaps, by the infection contained in the clothing of those who have been attacked. There have, however, been several recent occurrences of the disease which have seemed strongly to indicate that milk was serving as the vehicle of the infection. One excellent report has been issued on this subject by Dr. J. KING WARRY on an outbreak in Upper Clapton which was said to be associated with the distribution of milk; and other local prevalences in the metropolis have raised suspicion that the same process was going on elsewhere. Under these circumstances it is of the utmost importance that a careful watch should be kept as to the conditions of health and disease in dairies and milk-shops, and that every health officer and sanitary authority should be on the look-out for possible distribution of scarlet fever through the agency of milk. This leads to a further consideration. The Clapton outbreak, to which we have just adverted, could not be traced to any infection of the milk from a human source; and the milk alleged to have been the vehicle of conveying the disease was found to have been derived from a dairy where exceptional precautions as to health and cleanliness were habitually observed. But some of the cows were found to be ailing, the actual ailment at the time of their examination being essentially limited to cracks and abrasions on their teats, with abnormally high temperatures. Past experience compels the utmost caution as to minor ailments, so-called, in milch cows at such a juncture; and it may be well to consider, quite apart from the spread of scarlet fever through its ordinarily recognised channels when once established, whether such seasonal activity as we are now experiencing as regards the affection in the human subject does not in some measure, at least, find its source and its means of rapid diffusion in a bovine ailment, the prevalence of which is equally favoured by certain seasonal and climatic influences at this period of the year.

DURING the present week two subjects widely differing in their character, but both of paramount importance, have engrossed the attention of the good citizens of Dublin, the burgesses being engaged in the selection of fit and proper candidates to represent them in Parliament, and academicians in their efforts to do fitting honour to the celebration of the tercentenary of the University of Dublin, identical with its own college, that of the Holy Trinity, popularly known by its familiar name, Trinity College. Whatever historic doubts may exist as to the source whence the "Virgin Queen" derived her inspiration, there can be none that the first letters patent were issued by QUEEN ELIZABETH on March 3rd, 1591, thereby winning for herself the proud title of "Fundatrix Collegii Sanctæ Trinitatis *juxta* Dublinum." The presence of "juxta" is a constant cause of surprise to those acquainted with the present position of the College in the very centre of a large and populous city, but unacquainted with its early history. Briefly it may be told how, outside the walls of old Dublin, in the possession of the then existing corporation, were some thirty acres of land which the corporation granted to the college for the erection of its buildings—a fact gratefully borne in mind on this the occasion of the commemoration of its tercentenary by the collegiate authorities; in evidence of which a grace of the Senate has been passed conferring the honorary distinction of LL.D. upon the present Lord Mayor of Dublin, and this compliment has been speedily reciprocated by the corporation conferring the freedom of the city on the present Provost, the Rev. Dr. SALMON. Partly by gifts of confiscated lands and partly, though in a minor degree, by purchase, the University is possessed of a considerable amount of landed property which is let on lease to tenants, who in their turn sublet their holdings. The college found this a satisfactory arrangement, as the "middle man" acted somewhat after the fashion of an agent and collected the rents, and the "middle man" obtained for himself satisfactory profits; but in recent times these profits have to a great extent disappeared, and in some instances have reached such a vanishing point that the direct tenant has surrendered his lease to the college authorities, thereby throwing upon them the onus of collecting the rents from the occupier of the soil. Nevertheless it is pretty generally believed that the collegiate income from this source alone reaches the sum of £50,000 a year, the remainder coming from students' term fees and fees payable for the various degrees.

In the University there are several "faculties," but that of medicine is naturally of principal interest to the medical reader. Until recent years the medical school was at a very low ebb indeed—a fact which can be easily explained. At the time alluded to the University would not recognise any certificates but those issued by its own professors for attendance on the lectures required from candidates who sought the degrees. As a consequence the College of Surgeons refused to recognise such certificates, and required their candidates to produce certificates emanating from other teachers recognised by themselves, so that the student seeking both qualifications had to pay twice over for the required certificates. To the credit of the University it must be stated that it was the first to recognise this anomalous condition of affairs, and after a long struggle, carried on within the walls of the College of Surgeons, principally by the late Drs. BEATTY, ADAMS and HUTTON, and the present Professor RAWDON MACNAMARA, "free trade" gained the day. Since then the University has progressed by leaps and bounds and, thanks to the enlightened zeal and energy of the Rev. Dr. HAUGHTON, its anatomical halls and chemical laboratories have acquired a deservedly high reputation.

During many years it was the fashion to style Dublin University the "Silent Sister," but so far as medicine in the broadest sense of the word is concerned such a reproach was undeserved—witness the writings of GRAVES, STOKES, ROBERT HARRISON, WILLIAM HENRY PORTER, ROBERT ADAMS and CARMICHAEL, the productions of whose pens are classics in medical literature. We must, however, leave it to others to vindicate from this reflection the *alma mater* of USHER, MOLYNEUX, SWIFT, GOLDSMITH, BURKE, BERKELEY, "TOMMY" MOORE, CONGREVE and a host *of alumni* who have carved for themselves niches in the Temple of Fame.

We may briefly note the preparations made to do adequate honour to this important commemoration; it is obvious that the University itself acted in no niggardly spirit in this direction. So far as entertainments go, on the first day took place the garden party in the Fellows' garden; on the second day the tercentenary banquet in the Leinster Hall, to which something like a thousand guests were bidden; on the third day there was a dramatic performance in the Gaiety Theatre; the entertainments winding up, so far as the University is concerned, with the University ball to be held in the Leinster Hall this (Friday) evening. We must express surprise that the play selected for the dramatic performance was the "Rivals" of SHERIDAN, an author who had no connexion with the University, to the exclusion of the tender-hearted, generous to a fault, simple-minded GOLDSMITH, for the production of whose comedy, "The Good-natured Man," the occasion seemed to be singularly appropriate. Rarely played, it would have afforded no opportunity for invidious comparisons—no unimportant consideration when it is remembered that all the male characters are represented by amateurs, the female characters, however, being played by actresses from Mr. EDWARD COMPTON'S comedy company, at present fulfilling a short engagement in Dublin. Failing GOLDSMITH, why was CONGREVE overlooked, whose "Love for Love" would have had the charm of novelty and unsurpassed dialogue? An excellent prologue to the performance of "The Rivals" has been written by Mr. EDWIN HAMILTON. In addition to these entertainments several Honorary Degrees have been conferred in the various Faculties, the recipients of those in Medicine being H.R.H. Duke CHARLES of Bavaria, Sir ANDREW CLARK, JOHN SHAW BILLINGS, THOMAS BRYANT, ADOLF GUSSEROW, JONATHAN HUTCHINSON and GRAINGER STEWART, whilst the College of Surgeons, in honour of the event, conferred its honorary Fellowship on Messrs. BRYANT, BILLINGS, GUSSEROW, and SNELLEN; the President, moreover, issued upwards of 750 cards of invitation to an "at home" to be held to-day (Friday), upon which occasion his Excellency will unveil the bust to be placed in the College in memory of the late lamented Dr. ROBERT MACDONNELL. On Wednesday their Excellencies gave a garden party at the Viceregal Lodge;

and on Thursday the Commander of the Forces gave one at the Royal Hospital, Kilmainham.

Immediately after the reception of the guests and delegates by the Provost in the Examination Hall, favoured by beautiful weather, a procession in full academic robes proceeded on foot to St. Patrick's Cathedral, to attend the commemoration service; and the crowds which thronged the streets witnessed a sight the like of which they are not likely ever to see again. The University of Dublin is to be heartily congratulated on the great success of its tercentenary commemoration.

THE reference in the Report of the Select Committee of the House of Lords on Metropolitan Hospitals and many subjects connected with hospitals deserves a more detailed notice than we were able to give it in one number. We propose, therefore, to deal specially with a few of these subjects as opportunity may offer. Of these one of great interest is the question of Poor-law infirmaries, their general administration and their medical efficiency. The older members of the profession will well remember the dismal provision for the sick poor in the old workhouses. Nothing could be more unsatisfactory. The nurses consisted of paupers a little less infirm than those whom they nursed. The equipment of the workhouses was deficient in all that goes to mitigate the severity of suffering. The scandal culminated in the case of TIMOTHY DALY who suffered from rheumatic fever in a London Workhouse and whose feet projected several inches beyond the edge of his bed. His death led to the investigations of THE LANCET into the general condition of the sick in workhouses, and these in their turn led to the memorable legislation of 1867 known as Mr. GATHORNE HARDY'S Act and the creation of the Poor-law infirmaries. The establishment of these institutions and of the asylums for infectious diseases created new ideas of the duty of the State towards its sick poor and has altered the feeling of reluctance with which such poor regard state assistance in the form of hospital treatment. Insensibly in twenty years a new set of twenty-four hospitals has grown up with 12,445 beds in them. Nor do we seem to have got to the end of this provision. Many of the workhouses, notably Bethnal Green, are without infirmaries; the sick in them are nursed largely by untrained or pauper nurses.

We are much interested in all the bearings, medical, educational and political of this great hospital system of Poor-law infirmaries. It exceeds already the voluntary hospitals in the number of its beds by about 4000. It is still indeed far behind in the quality of its nursing and in the quality of the medical service supplied to the patients. But having said so much on one side we have much pleasure in noting the high terms in which the Committee speak of the general management and the medical and nursing efficiency of these institutions. We regard this as distinctly creditable to the medical profession. The medical officer of these Poor-law infirmaries is not only the medical superintendent, but he is responsible for the general control of the whole establishment. This arrangement is of course open to the objection actually made that an officer who is responsible for the general control of an establishment with 700 or 800 beds, with perhaps only one assistant, cannot have any leisure for the proper and adequate treatment of so great an amount of suffering humanity. We cannot deny the force of this argument. But it remains true that no serious faults have been exposed, that the general administration is good and that no complaint of neglect of the sick emerged in the course of the inquiry. We see in this another proof of the administrative faculty which abounds in the profession. It is well known that these institutions are served by many able practitioners, who strangely prefer the appointments with their limited incomes (varying from £300 to £500 a year) to the chances of general practice with its uncertainties, its unpaid bills and its rough and irregular work. All the same we are glad to see that the question of the sufficiency of the medical arrangements of these infirmaries was distinctly raised and that important suggestions have been made for its improvement. It requires little imagination to understand that a medical superintendent and one or even two assistants, with 700 patients on their hands, can have but little time to give to individual cases, and that such a number of sick must include many cases of difficulty, of danger, and of suffering on which the opinion of a medical or surgical consultant should be taken. The provision for such consultation should be systematic as it is in Birmingham. We are told in the Report that some superintendents admitted the necessity for some such provision. Some said it was allowed and paid for by their guardians; others said they found no difficulty in getting hospital surgeons and physicians to come and see such cases without fee. But it is due alike to the superintendents and to the patients that a regular provision for consultations should be made in some form or other. The Committee of the House of Lords are much impressed with the evidence in favour of turning the clinique of the poor-law infirmaries to account for the furtherance of medical education. They allege that there was a remarkable uniformity of evidence in favour of this and of the belief that such an arrangement would not be disliked by the sick; indeed that it would be positively beneficial to them. The Committee were told by many witnesses that it would tend to secure careful examination of cases, to discourage routine in treatment, and that the clinical experience to be gained in a Poor-law infirmary would be different from that of the general hospital, both in respect of its in-patients and out-patients. They ventured to suggest that the Poor-law infirmary appointments would especially be useful to men just qualified, or in the fifth year of their studies which has just been added by the General Medical Council. This proposal is not new. It has been repeatedly before the Medical Council. But, spoken of with so much favour by the Lords' Committee, it is sure to come into fresh and serious consideration. It is one of many proofs that with all their perfection our existing hospitals do not teach the student everything and all classes of disease. The exact way in which the Poor-law infirmary is to be brought into line for educational purposes with the hospitals or with general practice is a matter for much reflection. Such a step would of itself involve a reconstitution of the medical staff. We should sincerely regret any change that would affect the authority of the medical superintendents who have so well managed these institutions. But without doing this it will be possible to increase the medical staff to the advantage of the patient and the relief of the superintendent, whose importance, we venture to think, would only be increased. We have only room for one more word in regard to these great Poor-law infirmaries. It is one of caution. There is a danger that these institutions may be made too easy and pleasant and so become pauperising. "It would seem," says the Committee, "that the excellence of the infirmaries and their separation from the workhouse are likely to exercise, and in fact do exercise, a distinctly pauperising effect on the poor." "Many patients are artisans in receipt of good wages." There should be no parsimony in dealing with actual pauperism associated with sickness, but there is a note of warning in these sentences of the Report against the encouragement of pauperism which we commend to the attention of all concerned.

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THE short paper in the current number of the *Nineteenth Century* on "The Increase of Crime," by the Rev. W. D. MORRISON, raises one of the most important and also one of the most difficult of social questions. At first sight it might seem a very simple matter to determine whether or not crime is on the increase; in reality it is very difficult. With such important and clearly defined crimes as murder or manslaugher there is not much difficulty. The total number reported to the police, the number of trials, convictions &c., will afford a fairly satisfactory basis for calculation. But we are on very different ground when we seek to determine whether the criminal population is increasing or declining. The average number of persons in our gaols depends upon many conditions apart from a growth or decline in crime; depends, for example, on the activity or negligence of the police, on the severity or leniency of magistrates and other officers of the law, on the prevailing tendency to inflict long or short sentences, and lastly depends to a very important extent upon legislation. Crime is partly "natural"—i.e., there are some crimes that are universally recognised as such by all civilised men; but it is also partly artificial or law-made—i.e., an act may be criminal in one country that is not under legal ban in another. The Elementary Education Act of 1870 and the Criminal Law Amendment Act of 1885 added new offences to our Statute-book, and it is obvious that convictions thus arising could not be fairly reckoned in any comparative estimate of the prevalence of crime at the present day and at some past period. It is thus clear that the question is an extremely complex one and that criminal statistics must be scrutinised with the most jealous care before any confident conclusions can be drawn.

Mr. MORRISON first draws attention to the number of cases tried, whether summarily or on indictment, during the last three decades. The figures are as follows:—

	Yearly average of cases.
1860-67	466,687
1870-79	628,027
1880-89	701,060

Here we are face to face with an apparent very substantial increase in crime. It is satisfactory, however, to learn that offences against the Elementary Education Acts alone account for more than half a million of cases during the last two decades. The question at once arises whether the apparent increase of crime is not sufficiently accounted for by the increase in population. On this point Mr. MORRISON furnishes us with the following statistics—viz., "Basing our calculations upon the estimated population at the middle of each decade it comes out that in 1860-69 one case was tried annually for every forty-four of the inhabitants of England and Wales; in 1870-79 one case was tried for every thirty-seven inhabitants; and in 1880-89 one case was tried for every thirty-eight inhabitants." It would thus appear that crime has been almost stationary during the last two decades, but that these decades indicate a substantial increase on the previous one.

The quality of the crime is obviously a point even more important than the mere number of offences. Taking murder as the most important of all crimes, we find that in the decade 1860-69 the yearly average of murders reported to the police was 126; in 1870-79 the yearly average was 153; and in 1880-89 the yearly average was 160. Even allowing for growth of population there is here a substantial increase in the gravest offence known to the law. The average annual number of indictable offences, which was 2315 in the decade 1870-79, had risen to 2562 in the decade 1880-89. The annual average number of offences against property with violence, which was 1483 in the decade 1870-79, was 1850 in the decade 1880-89. The annual average of offences against property without violence had, however, shown a decided diminution. The number was 10,701 in the former decade, 8049 in the latter. This decline is attributable to the operation of the Summary Jurisdiction Act, which has removed many offences of this nature from the list of "indictable offences," and so this decline cannot be interpreted as indicating a real diminution in this variety of crime.

Facts tend strongly to show that the predisposition to crime is greatest in the greatest centres of population. Thus one policeman was required in the City of London and in the Metropolitan Police District for every 312 of the population as enumerated in 1881; in the English boroughs one policeman was required for every 697 of the population; in the counties only one policeman was required for every 1150 of the population. Mr. MORRISON draws from these statistics the conclusion that "where there is most civilisation there is also most crime." We entirely dispute the justice of this conclusion. Great cities cannot in any true sense be said to be generally and in all parts more highly civilised than the adjacent country districts. The slums and alleys of great cities furnish the deepest depths of barbarism to be found in the civilised world. Further, great cities are the great foci towards which gravitate the streams of thriftlessness, vice, vagabondage and crime. To say that because great cities furnish an undue proportion of crime civilisation tends to make men criminal is, it seems to us, to advance one of the most dangerous and disheartening of fallacies.

We may, lastly, look at the statistics of the prison population, although, as we have already pointed out, this is a very misleading gauge of the growth or decline of crime. The yearly average of persons committed to prison in the decade 1860-69 was 127,690, in 1870-79 it was 154,145 and in 1880-89 it was 170,827. These figures indicate not only an absolute increase in the committals to prison, but also an increase in proportion to the population. The figures for the reformatory and industrial schools show an even larger increase. The rapid and uninterrupted increase in the police force points in the same direction.

Mr. Morrison concludes, first, that there is a very substantial increase in crime now in progress in our midst, and secondly, that this increase is almost wholly due to the excessive concentration of masses of population in large cities. Mr. Morrison's position and the painstaking attention which he has bestowed upon the elucidation of this important subject entitle his opinion to great weight; but before accepting his somewhat pessimist conclusions we should like to have some aspects of the subject treated which he has not dealt with, or at least not dealt with in a way to exhaust the discussion. For example, to crimes the rule is eminently applicable that for a just appreciation they must be weighed, not counted only; and Mr. Morrison's statistics appear to us open to cavil in this respect. Ten little crimes may testify to less depravity in a society than one great one; and until it is made out that the figures from which the writer's inferences are drawn are above the suspicion of equating unequal things, we shall be disposed to cling to the more hopeful view of the modern record of crime which other authorities than Mr. Morrison are able to adopt.

Annotations.

"Ne quid nimis."

THE INTERNATIONAL MEDICAL CONGRESS OF 1892.

The opinion we have from time to time hazarded as to the month and week in which this great assembly should meet in Rome has just been confirmed at the last conference held *ad hoc* by the Comitato Centrale. We now know that the last week of September has been officially fixed as that during which the Congress will sit. That this is a matter of vital importance to the success of the meeting no one who is cognisant of the character of the Roman climate in the late summer and early autumn can fail to appreciate. Exaggerated though it be, particularly after the activity of the municipal ædiles during the last twenty years in reclaiming outlying spaces and building over intra-mural tracts previously tenanted only by the malarian bacillus, the impression is still a prevailing one that from the close of June to the middle of September Rome is not a healthy place of sojourn—an impression reinforced by the immemorial usage of its inhabitants, who for that interval descend to the seaboard or go up to the mountains to escape the heat and the fever-laden breath of the Campagna. To invite the profession from all parts of the world to assist at the Roman Congress during the days of August would simply have been to court the refusal of nine-tenths of those whose presence might have been counted upon. In full cognisance of this the Comitato Centrale have been well inspired in their selection of the time of meeting, and though the last week of September has its drawbacks, particularly for those surgeons and physicians whose duties require them to be at their posts at the opening of our medical schools, still there is just enough interval between the rising of the Congress and the beginning of the winter session to allow of their assisting at the former and being not too late for the latter. We trust, therefore, that the decision of the Comitato Centrale, arrived at as it has been after much consultation of the convenience of the profession in two hemispheres and in many countries, will be found to collide with no great number of "previous engagements," and to favour as far as possible the truly representative character of this greatest of international gatherings. "Little more than a year," writes an Italian correspondent, "separates us from the memorable occasion which will confirm Italy's right to sit among the nations who, with fraternal confidence in each other, labour in the name of science. The high importance of this approaching reunion has been recognised abroad not less than in the peninsula, inasmuch that while a powerful phalanx of the physicians and surgeons of the Alta Italia have sent in their adhesions the post brings a daily shoal of letters in which the leading lights of foreign medicine, the scientific academies, the associations, and the institutes of Europe and America announce with the most gratifying expressions of goodwill towards Italy their intention to come in person or to be worthily represented. In the next few days the Comitato Centrale will address an identical appeal to all the physicians of central and southern Italy, an appeal to which the response, I need not say, will be at once unanimous and enthusiastic." The Comitati Locali will before the month is out be not less numerous than those which have for some time been in working order in Lombardy, in Piedmont, in the Venetian territory and in the Emelia. The Italian Government, we may add, coöperates loyally and effectively with the profession in its endeavour to make the Congress as brilliantly successful as any of its immediate predecessors, and will, we trust, enable the great promoter of the gathering, Dr. Guido Baccelli, to complete the mighty undertaking of his life, the Roman Policlinico, in time to show his brethren from abroad how Italy can and will improve upon her memorable past in pathological research and in therapeutic resource. To have crowned the edifice of such an institution in presence of the grandees of medical science and medical art will more than entitle the eminent consultant, who is not less distinguished as a patriot than as a physician, to say "Vixi" and to enhance the pride with which he will echo in Rome the welcome that greeted the profession on the façade of the Congress Hall at Berlin, "Universi Medici Orbis Terrarum Salutamini!"

MEDICAL AID SOCIETIES AND THE PROFESSION.

Our correspondence columns have recently afforded evidence not only of the great and very natural interest taken by our readers in the subject of the bonds into which the medical officers of friendly societies are commonly required to enter upon taking up their appointments, but also of the serious hardship which the observance of the covenanted conditions not seldom entails. It is easy to understand that in a discussion of this kind the disputants should be led to adopt strong views, and in no way surprising if they should be betrayed into expressions of opinion not altogether warranted by the facts or the law, as the case may be. This has, we believe, happened in the course of the discussion which has recently occupied our columns. Some of our correspondents have opined that engagements which would prevent a man from practising on his own account in the neighbourhood in which he has practised as an officer of the medical aid society are in no way binding and may be cast to the winds when the opportunity of infringing them arises. Now if this were sound law it would be very questionable morality, and if adopted as a line of conduct from the first would be such as no casuistry could justify. It may well be that a man who has been tricked or coerced into a position which he never intended to take up, but into which he has been forced either without his knowledge or in spite of his protest, may feel himself at liberty to accept any means of escape which the law extends to him. But any man who should sign an invalid bond knowing it to be invalid and intending, if occasion should arise, to take advantage of the flaw, would be guilty of dishonourable conduct which no technical justification could excuse or palliate. We think, therefore, that the legal question is not of the importance which some of our correspondents have been inclined to attach to it. The only way in which, without stooping to unworthy shifts, a medical practitioner can defend himself against imposition is by resolutely refusing to undertake any obligations which he will not, when the time comes, be prepared honourably to discharge. But while we adopt this higher ground of morality as that upon which a question of this sort should be decided we have reason to think that some of our correspondents have seriously misapprehended their legal position. We understand that it is quite possible for a bond to be drawn which will bind a man not to take away from an institution with which he has been connected the patients with whom he has there been brought into contact, and which in furtherance of this undertaking will shut him out from practice within a reasonably defined area. Whether a particular bond will or will not be effectual for this purpose must of course depend upon its terms, and if any of our readers who may have such bonds in their possession will furnish us with copies for publication we shall be happy to obtain a legal opinion upon their effect for the benefit of the profession at large. The matter is undoubtedly of great importance, and it would be well for all parties that the legal position no less than the ethical questions involved should be elucidated by full and sufficiently informed discussion.

THE PROGRESS OF CHOLERA.

CHOLERA has made some further and substantial progress in South-Western Russia. At Baku on the Caspian the outbreak is of considerable dimensions, and no less than ninety-one deaths took place there on July 2nd. The port of Petrovsk and the town of Astrakan at the mouth of the Volga have also been invaded, the western shore of the Caspian being thus attacked at three different points. South of the Caucasus the number of places invaded has also increased, and at the present moment Tiflis, Elizabetopol, Shamachi, Erivan and Shusha are seats of the disease. Another line of extension is up the Volga, and this is the more ominous because this is the season of the year when a large traffic up this river commonly sets in. The towns of Tzaritzin and Saratov have already been attacked, and the province of Samara, which immediately abuts on that of Saratov, is also stated to have suffered from such attacks. One of the greatest dangers to Europe will lie in extension of the disease to Black Sea ports, from whence, notwithstanding the restrictions that may be imposed, there will be risk of infection to such European ports as Odessa. In the meantime the Sanitary Board at Sofia has ordered ten days' quarantine upon vessels arriving at Bourgas, Varna, and Baltchik from Russian ports in the Black Sea between Soukham Kale and the Turkish frontier. In Russian Turkestan and Bokhara the disease is still maintained, but whilst it has distinctly diminished at Meshed no other serious extension has taken place. On the other hand certain journals in the Caucasus announce that the disease has broken out in the neighbourhood of Bagdad in Mesopotamia. The news which we publish from our special correspondent as to cholera in Paris is disquieting. That form of disease which we are wont to style English cholera often prevails in large centres of population during exceptionally hot weather and Paris has suffered from such weather. Severe diarrhœal diseases also tend to supervene when sewage-polluted water is being consumed and some parts of Paris and its outskirts are now receiving Seine water which must be regarded as contaminated by sewage. But neither of these conditions is as a rule associated with anything like the mortality which is persistently maintained around Paris, except when either true cholera or severe enteric fever are the causes of it. According to M. Monod, the energetic Director of Public Health for France, the prevalence to which we advert caused 159 deaths during the three months ending June 30th; it is mainly confined to the loop formed by the Seine west of Paris, and it is positively declared that no case of exotic cholera has taken place. This view has, up to recently, been also supported by Dr. Proust. To these high opinions, if still maintained, we feel bound to defer; but, on the other hand, we believe we are right in saying that the special districts referred to are not the only ones which have received Seine water during the recent drought; that the interior of Paris, where there has been no similar outbreak, has had some share of the same water; and that the mortality is of quite an exceptional character even for the localities attacked. When twelve and fourteen diarrhœal attacks terminate fatally day by day in a limited area and the disease is not infantile diarrhœa the circumstances of such fatality are sufficient to cause apprehension. Aubervilliers, one centre of the epidemic, has traditions of true cholera which are by no means remote, and, in addition to that district, Courneuve, St. Denis, La Plaine, Ile St. Denis, Suresnes, Courbevoie, Asnières, Clichy, Rueil and Colombes have also been seats of the disease. We trust that the measures which are being taken to prevent further diffusion of the outbreak will be successful and that the inhabitants will take the advice offered to them and boil all potable water so long as it may be necessary to draw it from the Seine. The recent occurrence of alleged cholera on board the *Crofton Hall*, which had to return to Calcutta in consequence of the mortality amongst its crew, has turned out, as we anticipated, to be an outbreak of ptomaine poisoning from unwholesome meat. This is the decision at which Dr. Simpson, the city health officer, and Dr. Forsyth have arrived. We are glad to be able to state authoritatively that, notwithstanding rumours and statements to the contrary, no case of Asiatic cholera has occurred in the Port of London, or, indeed, in any part of the metropolis.

MEDICAL PRACTITIONERS AND THE GENERAL ELECTION.

IT is certainly a somewhat unique occurrence for a body of medical men to interview a candidate for parliamentary election, with a view to ascertaining whether he is sound on important topics in which they are interested. "Tempora mutantur, nos et mutamur in illis." In these days, when every profession and separate interest has come to press forward its claims on the attention of Parliament, those who are too backward and modest to do so are apt to be forgotten and neglected. It may be owing to this, to some extent, that the medical profession has never received that honourable recognition and distinction from Parliament to which it is so justly entitled from the eminent services it incessantly renders the nation and from the learning and ability of its members. Hence we cannot but highly commend the action of the medical practitioners of Bradford who waited on Mr. Byron Reed, one of the candidates for Parliament in that borough, and laid before him some important questions on which they wished to know his opinions before the polling-day. The action of the deputation was all the more praiseworthy seeing that, following the high traditions of our profession, they sought rather to gain benefits for the public than merely to forward their own particular interests. It is true they uttered a protest against legislation which has recently singled them out from the rest of the population and placed them under penal obligation to render services to the public for which in some instances they receive no remuneration Medical practitioners are not State officials. If the State wishes to reap the fruits of medical science it must requite the services rendered. The most obvious way of doing this would be by assisting the profession in the acquisition of that knowledge which the State is now coming to see is indispensable to the well-being of the public and by protecting medical men in the practice of their profession. The subjects which Dr. Hime, as the chief spokesman, referred to are of importance and the deputation deserves credit for having drawn public attention to them. A report of the meeting will be found in another column.

THE REPEAL OF THE CONTAGIOUS DISEASES ACTS.

THE *Admiralty and Horse Guards Gazette* of the 25th ult. contains, under the heading "Free Trade in Disease," a most able article showing the evils which have resulted from the repeal of the Contagious Diseases Acts, and especially as regards the increase of disease among the men of the army and navy, both abroad and at home. The article deals most severely, but not unjustly, with those persons of both sexes to whom the country owes the repeal of those Acts. Fortunately, the issue is now changed. When the Acts were in force it was contended that all the improvements attributed to the Acts were due to other causes. But now that they have been repealed disease is more rife than ever and is increasing in such a ratio that the attention of the authorities must soon be called to the fact. Whatever may be the political constitution of the majority of the new Parliament and whether the present Ministry will remain or a new one be formed, it will be the duty of some member in the interests of the army, navy, and civil population to call the attention of the House of Commons to the disastrous results of the repeal of the Acts *and to ask for an inquiry thereinto. Whether this should* be by a committee of the House of Lords or the House of Commons or by a Royal Commission need not be just now discussed. For the present it is gratifying to see that our appeal has been responded to and that a representative of the lay press has taken the matter up, and that we are not left with our medical contemporaries to fight the battle alone. We trust that other representatives of the lay press will exert their power and influence in a cause which does not merely concern soldiers and sailors, but everyone who has at heart the welfare of his fellow-creatures.

A GREEK MEDICAL WORK 2000 YEARS OLD.

IN the last number of the *Classical Review* Mr. F. G. Kenyon, of the British Museum, who last year edited the newly discovered papyri of Aristotle and Herondas, describes another similar manuscript recently obtained for our national collection, which contains an ancient treatise upon Medicine by a Greek author, probably of Alexandria. The work, which has apparently hitherto been lost, is of much interest, and the following *résumé* of the state and contents of the manuscript condensed from Mr. Kenyon's report will indicate its importance. The papyrus is of tolerable size, measuring twelve feet, and bears thirty-nine columns of writing, each about three inches in width. Towards the end the writing is more compressed and the concluding portion, which comparatively contains the largest amount of matter, is fortunately in exceedingly good condition, but the other parts of the papyrus are both torn and rubbed and the text frequently barely legible. As to the treatise itself, the first eighteen columns are devoted to quotations from earlier writers as to the origin of diseases and present to us so many quotations from Greek medical authors of the earliest times that if the text can be tolerably well restored it will prove most valuable. Among the writers cited are Euryphon of Cnidus, Herodicus, Hippocrates, Timotheus of Metapontum, Philolaus of Croton, Polybius and Menicrates, Dexippus of Cos, Petron and Philistion, and Alcamenes. In quoting from some of these writers the author tells us he obtained their extracts from a work of Aristotle. Mr. Kenyon suggests this was not an authentic work of that philosopher, but the one cited by Galen, as bearing his name, which was really written by his disciple Menon, and thinks it probable that much of this papyrus text is derived from Menon's work. These quotations appear to cease with authors of the fourth century B.C., and then the more original part of the work is taken up. Unfortunately, just here the writing is very defective, but it can be gathered that much importance is attached to an explanation of the rival views of Herophilus and Erasistratus. The latest author quoted is Alexander Philalethes, who flourished towards the termination of the first century B.C., and the omission of all reference to Galen would seem to show that the recovered treatise was written originally before his time, though this papyrus may be a later edition. It is to be hoped that some of the medical societies may undertake to assist a competent scholar to edit this work, the funds of the British Museum being more properly applied to the acquisition than the publication of such treasures.

INFANT INSURANCE AND INFANTICIDE.

WE will not dispute the fact that there is an essential difference between child insurance and baby farming. The distinction, however, it is to be noted, consists in many cases mainly in a primary intention which has now become obsolete. For lack of any visible proof to the contrary we are forced to the conclusion that practical issues must explain the true purpose in either case and thus the terms are commonly found to be really interchangeable. A fresh illustration of their close relationship was afforded by a case recently decided. The defendants, a man and his wife, became possessed of an infant presumably illegitimate some four months ago and received with it a maintenance allowance of £20. The husband took out a policy for the child. Then followed a period of neglect, starvation, disease and general misery, mercifully terminated by the infant's death. To our mind, and especially in view of the history of many similar cases, there is an evident suggestiveness in the association of circumstances here noticeable.

THE RECENT BALLOON ACCIDENT.

THE public will hardly be satisfied with the conclusion come to at the official inquiry as to the cause of the fatal balloon accident on June 29th—namely, that no blame attached to anyone. The fact of a disaster having occurred need not, of course, imply intentional neglect, but it certainly could not have taken place under conditions of weather believed to be entirely favourable without some oversight. An examination of the evidence teaches us that as far as is known there was no fault in the original construction of the balloon or in its general management after it ascended. On a previous occasion the aeronaut, Mr. Dale, narrowly escaped a similar fall from the unexpected opening of the valve. This does not seem to have occurred on the present occasion. A part of the neck of the balloon had to be repaired before the ascent, but neither does this fact suffice to explain the accident. The only possible clue to its cause obtainable thus far is connected with the material structure of the balloon. We are told that it was not new, that it was made of cambric, that after the previous ascent it had been wetted, oiled, rolled up and put away; and that when unfolded for use on the last occasion it felt hot. In the fact just mentioned we may probably trace, if not the actual progress of chemical change, at least an assisting circumstance. Moisture and heat are allowed to act for a week upon a quantity of oiled cambric and decomposition inevitably follows. The question is whether such decomposition would so soon rot the structure as to explain the fatal occurrence. No other but an affirmative answer is, we fear, possible. The neck was not tied, and thus undue pressure by the gaseous contents upon the inflated bag was avoided. Here, however, another question suggests itself. Is it not possible that any dampness of this important part of the balloon could have impaired its efficiency as an exit for surplus gas? Whatever the answer to this query, the fact is clear that after rising some 600 feet the huge bubble burst either from excess of gas pressure or decay of its delicate envelope, or both. A further inquiry into the circumstances is clearly indicated. We would suggest that if instituted it should comprise a careful examination of the condition of the cambric used in this instance, and that it should be partly experimental. Some authoritative utterance as to the materials other than silk which are best suited for balloon construction and the methods of their management is evidently called for as a condition immediately affecting the safety of such ascents as that which has just ended so unhappily.

WOOLWICH AND PLUMSTEAD COMMONS.

THE military authorities who, as was stated in a recent issue of THE LANCET, had forbidden cricket and football on the whole of Woolwich Common except in one damp and irregular corner, have somewhat unexpectedly made an important concession which will add largely to the facilities the youths of the neighbourhood at present enjoy for their games. A strip of ground at the top of the common, near the Herbert Hospital, measuring nearly half a mile in length by perhaps 250 yards in breadth, is to be allowed to be used after midday—except on the rare occasions when it may be required for parades—on condition that the local board keeps order and sees that a few simple regulations are observed. The military authorities have also shown themselves desirous of meeting the needs of the youths who live a little further to the east by offering for games such portions of that part of Plumstead Common which is still under their control and is not actually required for the evolutions of the troops. Still further to the east a magnificent addition is just being made to the recreation grounds of the people by the opening of Bostall Wood, which will be under the control of the London County Council. In consequence of the facilities provided by the Woolwich Free Ferry all these open spaces, as well as the large tract of beautiful country round Shooter's Hill, Eltham, Chislehurst and the Crays are being more and more utilised for recreative purposes by the inhabitants of Mile End, Bromley, Bow and other parts of East London, who may be seen almost any morning now driving through Woolwich in brakes on their way to spend a "happy day" at some of the numerous rural resorts offered by the north-west corner of the "garden" county, which at the present time is at its loveliest.

THE ADVANTAGES OF BODILY EXERCISES.

IN the *Journal of the American Medical Association* for June 4th is an interesting paper by Dr. J. Madison Taylor on the Influence of Bodily Exercises upon Length of Life. He commences by enunciating two propositions: (1) That judicious activities of the body tend to maintain and increase its efficiency; and (2) that the hurtful effects of violent athletic competitions are popularly overrated. The first of these propositions is obvious and he therefore chiefly deals with the second. Against the growing interest in athletic matters there are constantly urged objections to the effect that many perfectly healthy young men are injured beyond repair by strains and shocks to vital organs received in the course of training or competitive sports, even among those who avow much confidence in the value of physical exercise; yet many declare the pity of it because such havoc is wrought thereby. Instances are cited, rather vaguely it is true, of fine fellows utterly wrecked by contests on land or water, of lives cut short by overtasks at so-called sports. After pointing out how important it is for medical men to define and point out dangers and urgently insist on their avoidance in such cases, Dr. Taylor proceeds to argue that even the best and wisest of medical teachers can err in opinion and cites as an example an assertion of Dr. B. W. Richardson: "I venture to affirm there is not in England a trained professional athlete of the age of thirty-five who has been six years at his calling who is not disabled"; and the same author as saying: "When the artificial system of training ceases, the involuntary muscles, the heart especially, remain in strength out of all due proportion greater than the rest of the active moving parts of the organism." Dr. Taylor maintains that this authoritative statement has swayed the judgment of thousands of thinking men. He has had these views on the damage done to involuntary muscles quoted to him again and again. Such cases he considers are indeed possible and from such causes do they come in the laborious ranks of iron-workers and those who put forth in long days excessive and continued muscular exertion. Among professional athletes the heaviest strains must come, as upon the output of the most concentrated force alone comes to them honest reward. Dr. Taylor has collected the brief histories of a score of these men now living which he thinks at least illustrate how vigorous and sound such men may be even long after the age limit which Dr. Richardson has assigned to them. These histories are interesting and some of them very remarkable and Dr. Taylor is strongly of opinion not only that the judicious pursuit of bodily exercises, either in the line of ordinary avocations, special duties, or sports, tends greatly to maintain and enhance the vigour of both body and mind, but also that the hurtfulness of severe muscular exertion short of profound exhaustion is merely temporary and recoverable and that dangers to internal organs and vital centres are comparatively rare.

TREATMENT OF PHTHISIS BY CREASOTE AND GUAIACOL.

DR. F. P. KINNICUTT, in delivering the Middleton-Goldsmith Lecture for this year in New York,[1] chose as his subject "New Outlooks in the Prophylaxis and Treatment of Tuberculosis." He considered very carefully the various methods of treatment which had lately been introduced and gave his experience of those he had tried. One of the most interesting series of records are those cases treated by creasote and guaiacol. Dr. Kinnicutt wished to test the practicability of employing a very large daily dosage of the creasote preparations and to determine, if possible, any advantage which this method might possess over their use in smaller quantities. Several of the patients selected for this treatment presented in a well-marked degree many of the symptoms—namely, hectic sweats &c.—attributed to the toxic influence of the products of the bacillus and were therefore well adapted to test the effect of creasote upon such manifestations. A tabulated report is given of seven cases which were treated with subcutaneous injections of guaiacol, rapidly pushed to a daily dosage of one gramme, and five cases with creasote by the mouth, also rapidly increased to *six grammes* daily. In four of the former cases there was little, if any, appreciable change in the physical signs of disease. In one of them, however, the general condition greatly improved and there was a gain in weight of eight pounds; in one the weight decreased by one pound and three-quarters, in one there was a loss of four pounds, in one the weight remained stationary; in the three remaining cases there was a progressive increase of the pulmonary

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[1] Boston Medical and Surgical Journal, May 26th, 1892.

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[illegible] Medical College

lesions. No influence upon hectic, when present, was observed. Night sweats, however, were affected favourably. In a single case suffering from chronic nephritis (confirmed by necropsy) a marked increase in the albuminuria was observed when a daily dosage of one gramme was reached. The treatment was then discontinued and the albuminuria gradually diminished. In no other case treated either with guaiacol or creasote did any trace of albumen appear in the urine, although examinations were made every other day. In a single case, where the maximum dose of guaiacol was reached, the urine became dark in colour and very similar in appearance to urine containing carbolic-acid products. In the cases treated with creasote two exhibited no appreciable difference in the physical signs. In those there had been a gain of one pound and a loss of three pounds respectively. In the three remaining cases there was a progressive increase of the lesions. The effect of a very large daily dose of creasote upon hectic sweats corresponded to that noted in the use of guaiacol. Entire tolerance of six grammes (over one and a half drachms) of creasote was exhibited by three of the five patients. One complained of slight gastric discomfort when a daily dose of five grammes was reached. Carbonate of guaiacol was also tried. In addition to possessing the advantage of being tasteless and odourless, it seemed to have a beneficial effect on the appetite. The conclusions which Dr. Kinnicutt formed from a careful study of these cases were: That both creasote and guaiacol in certain forms could be given in very large doses with entire tolerance and without injurious effect; that such doses apparently possessed no advantages over much smaller ones and had no greater effect upon hectic and night sweats; that subcutaneous injections of the drug possessed no advantages over administration by the mouth; that whatever beneficial influence creasote might exert in pulmonary tuberculosis could be effected with a comparatively small dosage; and that favourable results could be expected only by its continuance and prolonged employment.

THE RESTRAINT OF JUVENILE SMOKING.

It is time that the attention of all responsible persons should be seriously directed to the prevalence and increase of tobacco smoking among boys. Here and there, as we have recently shown,[1] there have been observed expressions of a strong repugnance existing in the public mind against this form of juvenile perversity; but we still lack the support of a general and outspoken objection to its continuance. At the same time we feel assured that no man who has really given any thought to the matter would hesitate in condemning the injurious folly of this practice. Stunted growth, impaired digestion, palpitation and the other evidences of nerve exhaustion and irritability have again and again impressed a lesson of abstinence which has hitherto been far too little regarded. A further stage of warning has been reached in a case which lately came before the coroner for Liverpool. A lad was in the habit of smoking cigarettes and cigar ends, and after an attack of sickness died somewhat suddenly. The post-mortem examination revealed fatty changes in the heart, which there was little doubt, as the verdict held, had been fatally supplemented in their influence by the smoking habit referred to. This of course is an extreme example. It is also, however, after all, only the strongly coloured illustration of effects upon health which are daily realised in thousands of instances. Not even in manhood is the pipe or cigar invariably safe. Much less can it be so regarded when it ministers to the unbounded whims and cravings of every heedless urchin. Clearly there is need of some controlling power here. The parent in certain classes is almost as ignorant of consequences and probably often quite as apathetic as his boy. Where he can be roused to the active exercise of his authority in repression he should be. In very many cases he cannot, and we have therefore no hesitation in asserting once more our conviction that it is incumbent upon the Legislature, in view of its known pernicious effect upon mind and body during boyhood, to restrict this habit by an age limit which will fall outside this period.

CARLILL v. THE CARBOLIC SMOKE-BALL COMPANY.

To those among our readers who are familiar with the ways of the quack medicine vendor the facts proved the other day by Mrs. Carlill in the action which she brought against the Carbolic Smoke-ball Company will occasion no surprise. It seems that the company, which trades in a commodity called the "carbolic smoke-ball," had offered, as an inducement to the public to patronise their shop, a guarantee of £100 that any person using their nostrum should enjoy thereafter immunity from influenza. Mrs. Carlill took the advertisers at their word, bought and used their prophylactic and thereafter suffered, like many of her unprotected neighbours, from an attack of influenza. The promise of immunity having thus been falsified the lady brought an action to enforce the alternative promise of a solatium of £100 and was met with a defence which put forward every possible ground of technical objection to the plaintiff's claim. We are glad to learn that in spite of the ingenuity of their legal advisers the defendants have been held liable to make good their promise. People who are silly enough to adopt a medicine simply because a tradesman is reckless enough to make extravagant promises and wild representations as to its efficiency may thank themselves chiefly for any disappointment that ensues. Still for this folly, which is only foolish and nothing worse, it is possible to feel sympathy when the disappointment comes. It is a pleasant alternative to learn that the dupe has been able, as in the present instance, to enforce a sharp penalty and that the process of reaping a harvest from the simplicity of one's neighbours is attended with dangers of miscarriage which must materially diminish its attractiveness in the eyes of those people who supply the popular demand for quack medicines.

CHOLERA IN KASHMIR.

Cholera, which existed in several parts of the Punjab during April, was imported into Kashmir along 200 miles of hill road by the men engaged to transport grain to Gilgit, on the frontier. It began in the city of Srinagar in the beginning of May and increased with such rapidity that within fourteen days the deaths per diem from cholera rose from 5 to 50 and then to 150; during the next fortnight the mortality steadily increased till the daily average was 270, even mounting to 300. At the date of our last advices it was slowly decreasing. About 350 new cases were being daily reported, with 140 to 150 deaths. Nearly every part of the city has thus been literally decimated. Within a month 4500 deaths have been registered. The disease is now spreading into the villages, but in a less virulent form. Several European visitors have been attacked and 6 have died. The State Medical Department has exerted itself to the utmost under Dr. A. Mitra in dealing with the cases. Dr. Thomas of the Mission Hospital is dangerously ill at present. He had been much overworked in the house-to-house visitation of the sick. There was a severe epidemic in 1883, when 10,000 patients died. So long as Srinagar remains perhaps the dirtiest city in the world such outbreaks are to be expected. The lesson to be learnt is that sanitation is less costly than epidemics. It is to be hoped that the British officials who are the responsible advisers of the Maharajah will take this lesson to heart. The

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[1] The Lancet, May 14th.

Government of India is responsible for the very expensive frontier policy of Kashmir. But for this large sums of money now spent on the army would be available for works of public utility, such as roads, drainage and a pure water-supply, all of which are now conspicuous by their absence. Surgeon-Colonel Harvey has gone to Kashmir to investigate the question of sanitary reform. *It is to be hoped that the* Indian Government will see to the resolute carrying out of his suggestions.

BROMIDE OF ETHYL AS AN ANÆSTHETIC.

BROMIDE of ethyl has been somewhat extensively employed in Vienna for anæsthetic purposes. In Professor Billroth's clinic it was used 300 times without mishap. Death, however, subsequently occurred in the case of an out-patient who was about to have a very large boil on the arm incised. While anæsthesia was being induced in the usual way the man suddenly became cyanotic and the respiration and cardiac movements ceased. Artificial respiration was persevered with for an hour and a half, but was of no avail. At the post-mortem examination there were found adhesions in both lungs; the heart was fatty and easily torn. The microscope showed that there was fatty and parenchymatous degeneration of the liver and kidneys as well as of the heart. There was no hyperæmic condition of the brain as in death under chloroform. It would seem, therefore, that whatever anæsthetic had been employed the patient *might have died*; so that no serious degree of blame can be attached to the bromide of ethyl.

MR. WATTS' GIFT TO THE NATION.

MEMBERS of our profession will be interested in learning that Mr. Watts, the eminent painter who intends to present to the nation a collection of his works, is now engaged on the picture which is to complete that collection. A short time ago he required medical advice and a well-known consultant was called to see him. The latter diagnosed his patient's case, prescribed for his relief and after some conversation was about to leave the room. Mr. Watts leant forward in his bed and said to the consultant, "Stay a moment—I should like a word with you. I have almost completed the collection of pictures which, as you are aware, I am about to present to the nation. There is but one picture wanting to complete the collection. I have had that picture in my mind for a long time, but I have not had the opportunity of seeing the subject of it until *to-day*. I want to paint you and when I have done so the collection for the nation will be complete." The gentleman addressed expressed his appreciation of the honour and we have no doubt that the profession generally will concur in this appreciation, seeing that the consultant in question is so representative a member of the body medical as the President of the Royal College of Physicians—Sir Andrew Clark.

THE WATER-SUPPLY OF CROMER.

THE Cromer Waterworks Company, in view of the growing popularity of the town, have been engaged during the past two years in sinking a second well capable of giving a supply considerably in excess of that hitherto available. These wells are situated more than half a mile away from the town. Owing to the sandy character of the upper strata great difficulty was experienced in sinking the new well, which varies from 8 ft. to 5 ft. in diameter, and has been carried to a depth of 183 ft. from the surface. The chalk was reached at a depth of 138 ft. below the surface, and, with the object of ensuring the purity of the supply by excluding all percolations from the strata above, the well has been lined to a depth of 151 ft. with brickwork and iron cylinders. The new borehole, which is 20 in. in diameter, extends from the bottom of the well for a further depth of 40 ft. Two headings, each 6 ft. by 4 ft., have been driven a distance of 100 ft., one serving as a connecting link between the new well and the old borehole by means of which the town has hitherto been supplied. The permanent water-level in the new well and the old borehole is 110 ft. from the surface and, as already stated, all the water flows directly from the chalk. The well, with the headings, possesses a storage capacity of about 25,000 gallons and the total yield when the works are in full operation will be at least 200,000 gallons a day, a supply that will suffice for the requirement of the town for many years to come, even at the present rate of progress. A new set of pumps and engine has been erected, which is designed to lift 12,000 gallons per hour, and the entire system is now in duplicate, so that in the event of a breakdown—an eventuality by no means likely to happen—a failure in the supply will, practically speaking, be an absolute impossibility. The water has recently been examined by Professor Frankland, F.R.S., and he reports on samples taken from each well as follows: "The two samples are of most excellent quality for dietetic purposes. They are absolutely free from all evidence of previous sewage or animal contamination, whilst for chalk water they are of very moderate hardness. Cromer may be congratulated on being supplied with one of the best waters in Great Britain." The works have been carried out under the direction of Mr. J. C. Melliss, M. Inst, C.E., of London, and by Messrs. Thomas Tilley and Sons of Walbrook, London. The pumps and machinery have been supplied by Messrs. Robert Warner and Sons of Walton-on-the-Naze, while the buildings at the surface have been erected by Mr. John Newman of Cromer.

FORCIBLE REMOVAL TO INFECTIOUS HOSPITALS.

THE case which recently occurred at Fulham and in which a patient was ordered by the magistrate to be removed to the fever hospital on the certificate of Mr. Cooney and against the opinions of Dr. Cayley, Dr. Phillips and others, is likely [to] be an important one in the history of sanitary legislation. Lord Sandhurst speaks on this subject with much authority, being chairman of the Middlesex Hospital and having been chairman of the Select Committee on Metropolitan Hospitals. Lord Sandhurst has called attention to the facts in the House of Lords, as reported at length in last week's issue of THE LANCET, and in the course of his remarks said that the board of the charity (the Middlesex Hospital) had promptly taken the case into consideration and passed a vote of confidence in Dr. Cayley. His lordship also quoted Sir Andrew Clark as to Dr. Cayley's standing in the College of Physicians and his high authority on such a question as the diagnosis of fevers. Lord de Ramsey, replying on behalf of the Government, said the case was one calling for the supreme control of the Home Office, by which it is understood an inquiry will be made into all the facts of the case. At Fulham a crowded public meeting has been held to express sympathy with the mother of the patient. Resolutions were passed tendering thanks to Dr. Cayley and Dr. Phillips and requesting the Local Government Board to cause a public inquiry to be made into the case, also asking whether the magistrate's interpretation of the Public Health Act does not place far too much power in the hands of medical officers and medical men in general and whether there is not urgent necessity for an amendment of the law as regards the notification of infectious diseases. The fine of £10 and costs was remitted by the Home Secretary after Lord Sandhurst had made him acquainted with the facts of the case. Though the facts of this case raise questions rather as to the judgment with which the law has been administered than as to the law itself, yet it is well worthy of consideration whether some greater security for sound diagnosis in doubtful cases must not be provided than the certificate of any one practitioner would imply. Individual and domestic liberty are sacred things. But the public safety is still more so. The important thing in every serious invasion of private and domestic liberty is to eliminate as far as possible the element of fallibility and to give the poor, who are mostly affected, the same security as the rich. It is only by these means that popular respect for such legislation can be maintained.

THE ORGANISATION OF SCIENCE.

We have received a disclaimer from "A Free Lance" with regard to our criticism of his "Organisation of Science."[1] He is willing that the Linnean Society, whose carnivorous tendency, though contrary to the law of specialism, he appeared to sanction, should deliver up its fauna to its junior, the Zoological Society. His only wish is to further by special concentration of energy the fullest consideration of scientific problems. He also repudiates all intention of limiting by centralisation the vigour of intellectual enterprise. Nothing, therefore, could be more admirable than his purpose. While we gladly admit this however, we must express the opinion that it is one of the most objectionable, as well as most marked and essential, features of specialism, notwithstanding the nice accuracy of its accomplishments, that it tends to a progressive narrowing of the scope of the intellect and a restraint of its free energy, which has often proved fully adequate to the work of investigation in diverse lines of study. Neither would we forget that the very plan of natural subdivision seems to repudiate anything like pure specialism, since every individual department merges within the dim confines of some other.

THE DEATH OF THE PREMIER OF BRITISH COLUMBIA.

In reference to the inquest held on the body of Mr. John Robson, Premier of British Columbia, on the 4th inst., the following particulars of the illness have been furnished at our request by Dr. George Ogilvie. Mr. Robson was sixty-eight years of age and had been suffering from overwork for some time. He came to London on business on June 20th and on that day, when riding in a hansom cab, the tip of the little finger of the right hand was crushed in the hinge of the door. The injured finger was at once dressed at Westminster Hospital and Mr. Robson was able afterwards to keep his appointment at the Treasury Office. The dressing was changed next day at the hospital. He did not again visit the hospital and did not obtain any further advice till he was seen by Dr. Ogilvie on the night of June 26th—i.e., six days after the accident. There had been a rigor on June 23rd, which Mr. Robson attributed to ague, and he did not attach much importance to it, although he felt ill. The following days he suffered from slight nausea and malaise. When first seen by Dr. Ogilvie he had the aspect of a patient suffering from a continued fever. The skin was moist, the complexion sallow, the tongue was glazed and the lips parched. The pulse was weak and irregular; respiration 28, temperature 102°. The physical examination of the thorax and abdomen disclosed nothing which could account for the symptoms. The dressing, which had a faint odour of iodoform, was removed from the finger. The finger nail was loose, the skin covering the tip of the finger was of a dirty-grey colour, and there had been fracture of the tip of the terminal phalanx. An opiate was administered and the patient passed a fair night. Next day the temperature rose to 104°, and Mr. Watson Cheyne was called in consultation. The finger was amputated the same evening. The temperature fell two degrees after the operation, but next day again rose to 104°. The pulse became rapid and intermittent, the respiration was shallow and more frequent, the breath had a peculiar sweet odour, and the tongue became dry and furred. Later on the temperature fell to 100° and, coma gradually supervening, the patient died on the evening of June 29th—namely nine days after the accident. No post-mortem examination was ordered by the coroner and the family did not desire one to be made.

DEATH OF PROFESSOR BIERMER.

The death is announced of Professor Anton Biermer, who until quite recently was Director of the Medical Clinic in Breslau. He had occupied himself with microscopic investigations, especially of the sputum, and he published papers on the metallic sound in auscultation of the lungs. Previously to his going to Breslau as successor to Lebert he had been Professor of Medicine in Berne.

DONATION BOXES IN OUT-PATIENT ROOMS.

We should be glad to hear from many quarters as to the voluntary contributions of out-patients. At the anniversary court of the governors of the East Suffolk and Ipswich Hospital it transpired that the donation boxes in the out-patient rooms had been very ill supported, only 1*s*. 7*d*. being given by 4278 patients. There was a falling off, too, in the Sunday collections.

CHRONIC NITRO-BENZOL POISONING.

Dr. Warfinge of Stockholm has reported some cases of chronic poisoning by nitro-benzol occurring amongst workmen employed in a factory where this substance is used and where the workshops are small and badly ventilated. In one case which was treated at the Sabbatsberg Hospital there was severe headache during the first week, followed by lassitude and general debility with fatigue after walking. After some time retching and vomiting with great loss of appetite came on and the bowels became confined, the stools having a reddish-brown appearance. The urine, too, was reddish brown and of a syrupy consistence. There was depression and restlessness at night and subsequently a feeling of formication in the fingers and toes, which rapidly spread to the hands and legs. A blowing sensation was complained of in the feet, which appeared to affect the whole of the body. The headache became more severe and was accompanied by giddiness and impairment of vision with tinnitus in the ears. After this there were tremor in the upper extremities and impaired sensation in the upper and lower limbs with, for two days, impairment of the power of speech. The patient, after three months in the hospital, recovered sufficiently to enable him to resume his work in the factory, but after having been there for four months he was obliged to apply for readmission to the hospital, with somewhat similar symptoms to those existing previously. He presented much the appearance of a person with locomotor ataxy, but, after a month's treatment, recovered.

FOREIGN UNIVERSITY INTELLIGENCE.

Berlin.—An Extraordinary Professorship in the Philosophical Faculty has been conferred on Dr. Assmann, an eminent meteorologist, who was at one time a medical practitioner.

Buda-Pesth.—For the vacancy in the surgical chair caused by the death of Dr. Lumniczer the Professorial Senate have proposed the following names: *Primo loco*, Professor Dollinger and Professor Réczey; *secondo loco*, Professor Navratil; *tertio loco*, Dr. Hugo Schmidt of Pressburg.

Greifswald.—Dr. Stöwer has been recognised as *privat-docent* in Ophthalmology.

Heidelberg.—Dr. Fleiner, assistant in the Medical Clinic, has received an offer of a Professorship at Innsbrück.

Prague (Bohemian University).—An Ear and Throat Clinic has been established of which Professor Emilian Kaufmann has been asked to take charge.

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[1] The Lancet, June 18th.

Würzburg.—Dr. Rudolf Arnim Fick has been recognised as *privat-docent* in Anatomy.

AT the tercentenary celebration of the Dublin University on Wednesday last the honorary degree of Doctor of Medicine was conferred upon John Shaw Billings, Washington; Thomas Bryant, President R.C.S.; Sir Andrew Clark, President R.C.P.; Adolf Gusserow, Berlin; Jonathan Hutchinson, London; and Thomas Grainger Stewart, Edinburgh. The degree of Doctor of Sciences was conferred on J. Burdon Sanderson, Oxford; Michael Foster, Cambridge; Sir George Murray Humphry, Cambridge; Julius Kollmann, Basel; Alexander Macalister, Cambridge; Professor Richet, Paris; Sir William Turner, Edinburgh; Wilhelm Waldeyer, Berlin; and others.

THE Italian Society of Laryngology, Otology and Rhinology will meet for the first time in Rome towards the end of October next. Among the agenda the following may be noted:—1. Report by Professor F. Massai of Naples on the Phases, Nature and Therapeutics of Laryngeal "Papillomi." 2. The Diagnostic Value of the Perception of Sounds "per la Via Craniense ed Aerea" (cranial and respiratory) in Maladies of the Ear. Reported by Dr. Corrado Corradi of Verona. 3. Diagnosis and Treatment of Affections of the Sinuses annexed to the Nasal Cavities. Dr. Giuseppe Strazza of Genoa, reporter.

THE Khedive of Egypt has conferred upon His Excellency Crookshank Pasha, F.R.C.S. Edin., the Second Class of the Imperial Order of the Medjidieh in recognition of the valuable services rendered by him as Director-General of Prisons. The brevet and insignia of the Order were presented to Crookshank Pasha on the 21st ult. by His Excellency Ahmet Choucry Pasha, Under Secretary of State, and, at present, Acting Minister for the Interior, together with a letter from His Highness the Khedive.

A COMMITTEE MEETING in support of the "Sir George Buchanan Presentation Fund" was held on Thursday, July 7th, at 5.15 P.M., at 13, Old Burlington-street. Subscribers are reminded of the desirability of their sending in their subscriptions as soon as possible, in order that the committee may know at an early date the amount of the fund which will be at their disposal. Dr. W. H. Hamer and Dr. J. C. Thresh are the honorary secretaries.

THE medical profession all over the world will learn with profound regret that Professor R. Koch of Berlin, whose researches have so greatly advanced our knowledge of disease, has of late been incapacitated from work and that there is grave reason to fear that the condition of his health is such as to preclude the resumption of his duties for some time at least.

THE Rose Show and Floral Fête which was held at the Mansion House on June 24th and opened by the Princess Christian, accompanied by her daughter, Princess Victoria, was organised by the Lady Mayoress for the benefit of the Royal Hospital for Women and Children in Waterloo-bridge-road. After all expenses were paid the Lady Mayoress was able to present to the hospital the sum of £1050.

THE summer dinner of the Irish Medical Schools and Graduates' Association took place on the 4th inst. at Kingstown, Dublin, Dr. Mapother presiding and fifty-one members and guests being present.

THE University of Siena, by eighteen votes of its Senatus Academicus out of twenty-one, has just elected Professor Domenico Barduzzi as its rector. Dr. Barduzzi is one of the most distinguished among its clinical staff and takes an effective part in promoting the balneological resources of Italy.

THE chair of General Clinical Medicine in the Istituto di Studi Superiori at Florence, left vacant by the death of Professor Federici, has by the unanimous vote of the medico-chirurgical faculty of the Institute, been offered to Professor Grocco of Pisa, a clinical teacher and consultant of high reputation in the latter seat of learning.

LORD REAY presided on Monday at a special meeting of the Royal Commission to consider the granting of a charter to the Gresham University for the purpose of hearing the opinions of M. Couvereur, a Belgian professor, who explained the methods of University education in that country.

MR. GEORGE JOHNSON, M.D., Physician Extraordinary to the Queen, and Mr. Frederic Bateman, M.D., Senior Physician to the Norfolk and Norwich Hospital, were introduced to the Queen's presence on July 5th and received the honour of knighthood.

THE annual competition for the Volunteer Medical Association Ambulance Challenge Shield will take place at Wellington Barracks on Saturday, the 16th inst., at 5 o'clock. Those interested in the competition are invited to attend.

AT the request of a number of his former students, Professor Grainger Stewart of Edinburgh has consented to sit for his portrait, which is to be painted by Sir George Reid, P.R.S.A.

CHOLERA NOSTRAS AND THE PARIS WATER-SUPPLY.

(FROM OUR SPECIAL CORRESPONDENT.)

THOUGH prominent Government officials may consider it their duty to maintain that everything is for the best in the best of all possible worlds there is no denying that the epidemic in the suburbs of Paris is a matter of grave anxiety. We are asked to believe that there is no cholera; but to the numerous persons who have died after an illness of only a few hours it matters little whether the cause of their deaths was cholera nostras or Asiatic cholera. We are told, on the best authority, that already some hundred and fifty persons have died. To them, at least, the consequences were equally sudden and disastrous. The dejections of the patients have been examined; an official report was to be published as to the result. This report has not yet appeared. Why has it been held back? Because, we are told, the investigation is delicate and difficult. But some ten days ago I ascertained from private sources that the bacillus of cholera had been found in these dejections; only I was further informed that such germs were always found in cases of cholera nostras. To distinguish them from the true Asiatic cholera germ it was necessary to cultivate the germ and produce successive generations. This has been done, and as nothing is published on the subject it may be concluded that probably the result is not encouraging. Indeed, rumours are already circulating that new theories will soon be afloat as to the etiology of cholera which may tend to show that there is not so much difference as is generally supposed between cholera nostras and true cholera.

The epidemic commenced last April at the prison and asylum of Nanterre, which was originally built to hold 2000 inmates. In practice it has become not merely a prison but a sort of asylum for vagabonds and has contained sometimes as many as 5000 persons; consequently there have been all the evils of overcrowding. Precautions were taken to supply the inmates with pure water. A very deep well was dug into the chalk and was surrounded with steel tubing, so that no surface water could reach and contaminate the well. Some Seine water, however, is also provided at the prison where it is used for working hydraulic lifts. By some mistake or mismanagement the Seine water, instead of the well water, had been distributed for drinking purposes. The epidemic among the prisoners thereupon broke out, with the result, according to M. Monod, who is the Director of the Public Hygiene Department of the Ministry of the Interior, that some fifty cases of a suspicious description ensued causing forty deaths. From the prison the epidemic spread to the neighbouring suburbs, and soon there were twenty-five deaths to deplore among inhabitants living near the Nanterre prison. The well water provided at the prison contained only 0·0015 gr. of organic matter and the Seine water 0·0018 gr., but Dr. Miquel found in the latter 37,000 bacteria to the cubic centimetre.

The epidemic has spread much further afield, but it still seems connected with the drinking of Seine water. Thus at Argenteuil seventeen cases occurred at the commencement of June, when the water of the Seine was substituted for the water of the Oise. The Consultative Committee of Hygiene of France has passed a resolution demanding that the water companies should not be allowed to deliver Seine water to their subscribers without giving them due warning. This is actually done, but perhaps not efficaciously. The position of the Paris water-supply is as follows. In ordinary times 135,000 cubic metres of water are consumed in the day; but when the temperature rises to about 70° F. there is an increased consumption of water equal to about 30,000 to 40,000 cubic metres more. The water works are then obliged to make up the difference by giving Seine water. Nor is it practical to purify efficaciously so great a volume of water. No sterilising apparatus could deal with such a quantity. Moreover, it is not possible to ration the supply, for while the supply was stopped the pipes would get filled with air, and this is attended with many inconveniences and dangers; and, on the other hand, there would be no water to flush the closets. The best hope of the Parisians rests on the fact that 87 kilometres out of the 102 kilometres of the aqueduct, which will bring the water of the Vigne to Paris, are now constructed. Perhaps this additional supply of pure water will be available next summer; in the meanwhile, the inhabitants are asked to carefully boil their water and to wait patiently. As a temporary measure it has been decided to apply the Pasteur filter to the Wallace drinking fountains, so that prudent persons may go to these fountains and fetch their supply of drinking water. But the number of prudent and thoughtful persons is very limited, so the epidemic continues. Also the waters of the Vigne will only reinforce the Paris supply; the suburbs, where the epidemic most generally prevails, will continue to drink the Seine water. M. Sellier, for instance, who is mayor of Colombes, writes to complain that the treaty with the water company supplying his district is binding for another thirty-five years. There is no clause in the treaty giving the concession for the water-supply which enforces the filtration of the water. These treaties are already some twenty-five years old, and twenty-five years ago the dangers of an impure water-supply were not understood as they are in these modern days of bacteriological science. The districts of Bois-de-Colombes, of Asnières, Courbevoie, Puteaux, Nanterre, Suresnes, Gennevilliers are all in the same predicament. What will be done under these circumstances no one can yet foresee. The companies are legally entitled to supply water which is said to be dangerous to drink for another thirty-five years.

Since writing the above I have been informed on the best authority that the publication of the official report on the epidemic has been suppressed by order of the Prefect of the Seine. This report was drawn up by Dr. Proust, who was one of the representatives of the French Government at the Venice Sanitary Conference. The Consultative Council of Hygiene met at the Ministry of the Interior and heard and adopted this report. It was printed, Dr. Proust corrected the proofs, and it was about to appear in the columns of the *Official Journal* when M. Pourbelle, the Prefect of the Seine, interfered and prevented its publication. He feared that the report would create a disastrous panic. What his arguments may have been can be gathered from the incident which occurred a few days ago at a meeting of the County Council (Conseil Général) of the Department of the Seine. M. Vaillant attempted to speak about the epidemic, but was most violently interrupted by the councillors who represented some of the districts affected. Finally, M. Pourbelle rose and exclaimed that he could not understand the fanaticism of sanitary reformers which led them to make speeches that would tend to reduce the value of house rent in the suburbs of Paris. Then, to counteract the influence of the few words that M. Vaillant had been able to utter, the Prefect of the Seine declared that there was only one commune contaminated. Many leading sanitary reformers are indignant at the attitude adopted by the Prefect of the Seine. It is a good illustration of the difficulties in the way of sanitary reformers. Besides, anyone who has studied the death-rate knows full well that it is not in only one commune, but in twenty-four communes or districts, that cases of a suspicious and dangerous character have occurred. Many of these communes are agreeable semi-rural districts outside Paris, where Parisians who cannot altogether absent themselves from town take lodgings during the summer months. If M. Pourbelle had his own way people would be allowed to leave Paris, where, as a rule, pure spring water is obtainable, so as to dwell in suburban districts where nothing but Seine water is available, and this just at a moment when it seems very evident the Seine water is more contaminated than usual. Paris is wealthy enough and has sufficient resources within itself to bear the loss of a few visitors who might be scared away by the publication of Dr. Proust's report; while its leading position as the first town in France imposes upon it the duty of setting a good example. The evil should be met openly, face to face; everyone should know the truth and then it should be possible to take the proper precautions. Secrecy would be bad policy were it possible, but in Paris it is impossible. The Prefect of the Seine cannot, for instance, prevent the papers relating that Madame Vitté, the wife of a porter of a manure factory in the Rue de la Haie Coq died suddenly on July 3rd after only a few hours' illness; that on the same day, and also at Aubervilliers, Alfred Duval died suddenly and that there were other cases of a suspicious description at the Quatre Chemins; that at Courneuve Madame Chevalier and M. Boulogne, both living in the Rue d'Aubervilliers, died in the same manner; that at St. Denis, at the Avenue de la Plaine, there were other cases within the last day or two. Finally, yesterday, within Paris itself, in the Rue Oberkampf, a case is recorded. A special meeting of the municipal council of Clichy has been held to deal with the question. There is no disguising the existence of the epidemic, the great extent of the area it covers and the suddenness of the deaths it occasions. By suppressing the report of the Consultative Council of Hygiene more mischief and a greater panic will result than could ever have ensued from its publication. There is no attempt made in London to conceal the gravity of the present scarlet fever epidemic; and Paris shows itself behind the age in resorting to the feeble stratagem of secrecy. I do not believe that any prominent French medical man or sanitary reformer approves of this ostrich-like policy.

Paris, July 5th.

SOCIETY FOR THE STUDY OF INEBRIETY.

"Cures" for Inebriety.

The quarterly meeting of the Society for the Study of Inebriety was held on Tuesday afternoon at the rooms of the British Medical Society, 11, Chandos-street, Cavendish-square, W. Dr. Norman Kerr presided.

The President said that hitherto temperance reformers in this country had usually worked by straightforward and intelligent methods and had exercised that most valuable quality in reformers and everybody else—patience; and, as the magnificent results of the great temperance movement showed, a very large number of drunkards had been rescued, reformed or cured. But human nature was very impatient, and in these latter days there had arisen a feeling amongst a great many people that the evil of intemperance was growing so rapidly and extending so widely, and that the consequences in the present day and to posterity were so tremendous, that they must find some short cut to temperance, some miraculous method of speedily reaching the goal which neither they nor anybody else understood. Mesmerism and hypnotism were straightforward and open remedies for drunkenness and if applied in the presence of medical men and witnesses they could not be called secret remedies. He wished, however, specially to refer—as circumstances had arisen to render this very necessary—to a so-called secret "cure" which was named the "double chloride of gold cure" to which allusion had already been made in THE LANCET and other medical journals, and to advocate the merits of which a meeting was convened to be held under the auspices of the Church of England Temperance Society, presided over by Bishop Barry; but, owing to his (Dr. Kerr's) representations to the Bishop of London and Bishop Barry, that meeting had been adjourned *sine die*. The real but unavowed object of that meeting was to float a syndicate to raise £150,000 in this country in order to purchase the right of using this so-called "cure" in England; £110,000 of this—according to the circular he had seen—was to be given in cash and £40,000 in shares to the vendors. There was to be a commercial company for pushing the golden remedy similar to other companies with which they were familiar. They were told in a pamphlet that "without any effort on the patient's part" a cure would be effected by the use of this wonderful and infallible remedy as "certainly as night followed day." Already the decoction had apparently proved, if not a golden remedy, at least a veritable gold mine, for the bottles which contained it (one of which the chairman produced) were sold in pairs and each pair cost 9 dols., or 36*s*. There were twenty-six branches in America for the sale of this "cure." If the remedy were really a remedy for the victims of intemperance, surely it would have the support of the leading temperance reformers in America; but this, Dr. Kerr showed, was not the case. One writer in the *North-American Review*, who had lauded this so-called cure, which he had tried, died in New York, a few months after the appearance of his article, the death of a pauper drunkard. The fact was that this falsely called "remedy" was very dangerous, and was compounded of a number of poisonous intoxicants. They would hear from Dr. Usher of Melbourne, who had been to Dwight, Illinois—the centre of the manufacture of the "cure"—what he thought of it and its effects. Dr. Usher, the chairman incidentally mentioned, was about to publish a new book on "Alcohol and its Treatment." A distinguished analyst, a member of a great medical corporation in England—whose name the chairman was not at liberty to mention—had made a careful analysis of the so-called "bichloride gold cure." The dictum of this gentleman on a subject of this kind would, were he (Dr. Kerr) at liberty to name him, be received by all competent authorities without any hesitation whatever. Well, he (the analyst) found neither gold nor chlorides, but what he did find present was: water, 61·31 per cent.; sugar, 6 per cent.; a small quantity of mineral salts, principally lime, probably from herbs; and 27·55 per cent. of pure alcohol as intoxicating as port or sherry and more intoxicating than champagne and claret. And yet old teetotallers, unconscious of the composition of the "gold cure," had been actually recommending a so-called "remedy" more intoxicating than champagne or claret. Not only was this compound preparation condemned by the whole medical press of America and Britain, but by the whole reputable and respectable medical profession of the United States. Having spent many years in America he could bear this testimony to the fact that although there was not there as here a system of registration, yet there were as honourable members of the medical profession in America as in Britain. The testimony of Dr. C. H. Merr in an American journal as to the "results" of Dr. Keeley's treatment showed that Colonel Mines a few weeks after his "cure" died of alcoholism; Senator Fair's son died of heart disease directly attributed to the treatment; Walter R. Earle died a raving maniac a week after his dismissal; Henry Anstey died during treatment; Dr. Miller of Illinois, Luther Benson and Charles Vaughan became insane; ex-Congressman Hopkins also went mad and died soon after treatment. This so-called "remedy" was opposed to the whole true principle of enduring temperance reformation. The first thing to do with the drunkard was to cut off the poison, to stop the supply at once. Teetotalism was essential to the effectual cure of the drunkard. What, after all, was inebriety? It was a complex disease and needed moral, mental and physical treatment. An inebriate to be cured must himself have a desire to be cured, and must exercise a certain amount of will power when the narcotic action of the drugs had been swept away from the brain by the exclusion and prohibition of alcohol, then the little will power left would reassert itself.

Dr. J. E. USHER of Melbourne, Australia, then described a visit he had made to Dr. Keeley's sanatorium at Dwight. He was, he said, the first British physician who had visited Dr. Keeley's place. Three leading physicians from Boston, New York and Philadelphia respectively—representing different societies—had preceded him, remained half a day or a few hours and then returned home. Six weeks later all their friends received circulars intimating that these gentlemen had been remarkable successes in the cure way. Although he had visited the place with credentials from the Government, the Cabinet and lay press of Australia, he had been traduced since he left Dwight. Dr. Keeley (who seemed very uneasy while he conversed with him) told him he had used the "remedy" twelve years and it was very successful. He asked him what was the *rationale* of his treatment; what prescriptions he used. Dr. Keeley replied: "We will not go into that. I know it is all right. If you want to know anything about it, the secretary or chemist will tell you." The "chemist" turned out to be a sort of page-boy to Dr. Keeley. He (Dr. Usher) was introduced to Dr. Blaine, the "chief of the staff." The staff consisted of unsuccessful practitioners, who were paid from 3000 dols. to 7000 dols. a year, and they did all the work. Dr. Blaine took him where three rows of men were being injected in the left arm with five drops out of a little porcelain bowel containing a pinkish material—atropine really. Four of the patients wore glasses, and they told him that they could not see three or four days after the treatment, and became blind weeks together. Seventy per cent. of the patients had glasses. They suffered too from giddiness. One patient had been at the institution nine weeks, he said, and was afraid to leave because three of his "pals" who had left ten days before got drunk and had to come back. Another patient remained because he said if he stayed there two or three months an aunt had promised him an annuity, and he "wanted to see the time out." There was a "Bichloride of Gold Club" in which there were "graduates" and "undergraduates," so called. They did not appear to be healthy; some of them seemed to be under the influence of an opium drug—atropine. About £40,000 a year was spent in advertising or in subsidising people to advertise the concern, which was now engineered by some of the "smartest" men in America. The thing was most lucrative. Two bottles of the preparation cost 36*s*. Every man who went to Dwight had to pay 25 dols. down and from 5 dols. to 25 dols. a week; and all this money flowed into the coffers of the company.

The PRESIDENT said he had invited Dr. Keeley to attend that meeting, but he replied that he had that evening to deliver a lecture at St. James's Hall on "Drunkenness and its Cure," adding that he would be happy should any members of that Society desire to hear his address to forward tickets.

Dr. MORTON (Kilburn) moved: "That this meeting of the Society for the Study of Inebriety (of which the members are registered British medical practitioners) is of opinion that any so-called 'cures' for inebriety the composition of which is not disclosed are unfit to be commended by honourable members of the medical profession, who are bound to place the full details of their treatment before their professional colleagues, a requirement as essential in the interest of the public as it is consonant with the disinterested practice of scientific therapeutics."

Mr. J. SMITH, late superintendent of the Dalrymple Home, seconded the motion, which was carried unanimously.

Surgeon-Major PRINGLE moved, and Mr. JABEZ HOGG seconded: "That this meeting, having been informed by a competent London analyst, who has made a special analysis, that the alleged 'bichloride of gold cure' shows no trace of gold or of chlorides and contains 27·55 per cent. of alcohol, condemns unreservedly the prescription of such an intoxicating preparation to an inebriate."

This too was carried unanimously.

Dr. F. R. LEES moved a vote of thanks to Dr. KERR and thanked that gentleman for the prompt and effectual part he had taken in the exposure of this so-called "cure" of inebriety.

Mr. J. HILTON (United Kingdom Alliance) seconded the motion, which was carried *nem. con.*, and the meeting then terminated.

THE baths of University College Hospital are open between the hours of 2 and 5 P.M. and of 6 and 8 P.M. to patients under the advice of their medical practitioners. Wednesdays will be set apart for female and Thursdays for male patients.

DUBLIN UNIVERSITY TERCENTENARY.

The week has been a gala one in Dublin and garden parties, concerts, balls and receptions have filled up every available period. The first stone of the historic edifice of Trinity College was laid in 1591, in Queen Elizabeth's reign. Early in 1593 the institution was opened for the reception of students and the first conferring of degrees took place in 1600. The mayor and citizens granted the site of the Abbey of Allhallows and twenty-eight acres of derelict land, which latter now brings in an annual income of several thousand pounds. Her Majesty Queen Elizabeth gave some Crown rents and a yearly grant of £400 from the Concordatum Fund, which latter ceased in the present century, and the former is worth about £5 yearly. Lord Burleigh was appointed first Chancellor and Archbishop Adam Loftus the first Provost.

The proceedings of the tercentenary celebration commenced on Tuesday, the 5th inst., at the Examination Hall by a reception by the Provost, who welcomed the various guests and delegates. At 11 A.M. a procession was formed in front of the library and museum buildings. A military band led, followed by the students in gowns and caps, then the guests and delegates, including representatives of universities in their robes and of scientific societies, Next the foreign guests and delegates, followed by representatives from Cambridge and Oxford Universities; then three members of the Dublin Corporation, graduates and honorary graduates of the University, professors, junior and senior Fellows, another band terminating the procession. As the guests and delegates passed out of the College gates they were presented with buttonhole bouquets by young girls dressed in fancy costume The procession passed through various streets, walking four abreast until they reached St. Patrick's Cathedral, where a commemoration service was to be held. A procession of the kind was never seen before in Dublin and attracted immense crowds. The bright colours of the graduates' gowns and the quaint costume of the foreign guests with robes of yellow, orange, fawn, crimson and other shades presented an imposing appearance, and the headgear of some of the guests was of the strangest character. Some of the continental guests were in full evening dress with crosses and orders but without robes, while others wore gowns over military uniforms. One stalwart German, a Heidelberg student, walking with drawn sword, created considerable interest, and many surmises were expressed as to what he represented. Some thought that because he wore high boots and a velvet cap with an immense ostrich feather he belonged to the Order of Foresters. An old gentleman in an immense ruff reminded us of the mediæval period. When the procession had reached the Cathedral and had taken their places the scene was magnificent and unique. The State pew was occupied by the Lord Lieutenant, who wore the collar and star of the Order of St. Patrick. There were eight bishops present, the Archbishop of Dublin and the Lord Primate. The choir moved in procession up the centre aisle to the chancel singing the hymn "All People that on Earth do Dwell," and the choir and clergy being seated the hymn "O God our Help in Ages Past" was sung. The Archbishop of Dublin read the lesson and the Dean of St. Patrick's preached, the anthem being Blow's "I Beheld and Lo."

At three o'clock the cricket match, Dublin University *v.* Cambridge University, attracted a good many to the College Park, where a three days' match was being held: and at four o'clock there was a garden party in the Fellows' Garden, Trinity College, where about 2000 people enjoyed themselves for upwards of two hours, among the notabilities being his Excellency the Lord-Lieutenant, Viscount Wolseley, Lord Rosse, Chancellor of the University, Earl Dufferin, Chancellor of the Royal University, &c. To inaugurate the occasion a mulberry tree was planted by Miss Salmon, the Provost's daughter, a sapphic ode by Professor Tyrrell being sung of which the following is a translation:—

> "Thee did a kindly hand long stilled in death
> Plant here to reach an old age green and hale,
> Years full three hundred now have passed, but thou
> Survivest all their tale.
>
> "To thwart Death's envy of thy long-lived race
> A maiden doth a youthful sister give,
> Bidding her with thy dusky leaves to twine
> Her kindred leaves and live.
>
> "Mayest thou, new Tree, in dark-green mantle clad,
> No less accomplished scions here survey
> From age to age than those thy sister saw
> Crowned with renown for aye."

In the evening the Fellows professors, and students entertained at dinner several distinguished graduates, including Mr. Alma Tadema, Professor Sayce, Professor Waldeyer, Professsor Hashagen, Professor Gusserow, Sir G. Humphry. On behalf of the guests, Professor Schiffer of Vienna, Professor Knapp, Professor Oort of Leyden and Professor Cremona of Rome responded for the Universities.

At 9 P.M. there was a performance by the University Choral Society in the Leinster Hall of the Tercentenary Ode, composed by Sir Robert Stewart and written by Mr. G. F. Savage Armstrong. The ode was in every way worthy of the high reputation of the author and composer. The evening concluded by a reception at the Mansion House.

On Wednesday the 6th inst. the conferring of honorary degrees took place in the Examination Hall, Trinity College. All the recipients of the degrees were present, with only one exception. The proceedings were presided over by the University caput, consisting of the Earl of Rosse, chancellor; Rev. Dr. Salmon, provost; and Rev. J. Barlow, senior master, *non Regent*. Sir Robert Stewart performed a selection of music on the organ before the proceedings commenced. At 12 o'clock the procession of those who were to receive the honorary degrees and the College dignitaries entered the hall, the members of the caput being preceded by the College steward carrying the mace. At 3 P.M. there was a meeting in connexion with the graduates' memorial and at the same hour the cricket match between the Dublin and Cambridge Universities entered on its second day. At 3 P.M. there was a garden party at the Viceregal Lodge; in the Phœnix Park, the attendance being large and fashionable, while in the evening the tercentenary banquet was held in the Leinster Hall.

We must reserve an account of Thursday's and Friday's doings until next week.

ACTINOMYCOSIS.

Among the diseases of animals one of the most interesting is that due to the presence of the ray-fungus and consequently known as "Actinomycosis"; and as it is also a malady of mankind—though much less frequently observed—its interest is much enhanced, especially as it is in the majority of cases an incurable disorder. Its existence in the human species and also in animals may be more common than is usually supposed; for the presence of the fungus may be overlooked and the pathological changes it sets up may be ascribed to something else. Though for very many years the morbid conditions due to its action were recognised in animals, and chiefly in cattle, yet the discovery of the microphyte is only of recent occurrence and the numerous and diverse names given to these conditions are now merged into that which signifies their true nature. So far as animals are concerned, actinomycosis is a widespread and somewhat multiform disorder. It prevails throughout Europe and is common on the American continent and in Australasia. But in Europe its prevalence is singularly diversified; for while in some countries it is frequently seen—as in Bavaria, Saxony, Lombardy, Holland, Denmark and England,—in others—as France—it is comparatively rare. Even in this country its localisation appears to be strikingly partial; for while in Scotland and Ireland it appears to be exceedingly infrequent, in England it is not at all so, and in some parts—as Lincolnshire—it is of very common occurrence among cattle. It is equally curious to note that the form actinomycosis assumes is almost special in certain countries. In Germany, for instance, though actinomycosis of the pharynx is frequently observed and appears as pharyngeal polypi, lymphomata and lymphosarcomata—soft tumours containing myriads of actinomyces nodules, and which interfere with deglutition and sometimes obstruct the respiration—yet according to reports actinomycotic glossitis (the *Holzzunge* or wooden tongue) is the most common form it assumes. It is the same in Holland and Italy; and though in these countries and Germany the bones of the jaws are sometimes the seat of actinomycotic tumours (the so-called "osteo-sarcoma" and "spina ventosa"), yet they are not nearly so often seen as in this country, the United States of America, or Australia; while in France, where actinomycosis appears to be almost non-existent, the glossitic form has been scarcely recognised, that of the jaws being almost the only one observed. In England the three forms are witnessed, but perhaps the pharyngeal region is that which is most frequently invaded, though the first instance on record, that reported by Fleming, was one of actinomycotic glossitis. Of course, the disease may affect any organ or tissue and though the jaws, tongue and pharyngeal region are by far the most frequently involved, yet pulmonary and mammary actinomycosis are far from infrequent, and the microphyte has also been found in tumours on the skin and elsewhere, as in the omentum, kidneys, muscles, liver, spermatic cord, vertebræ, &c. The tumours vary considerably in size, being from that of a pea or hazel nut to the volume of the fist or a child's head, and they are irregular or nodulated on their surface; while in section they are rather light-coloured and granular, the granules being of a faint yellowish tint. Each tumour is in reality a kind of fibro-sarcoma studded and interspersed with tuberculiform nodules which are developed around tufts or masses of actinomycetes in different stages of development or regression. As has been remarked, each of these nodules exactly represents, histologically, a Köster follicle—that is, the central portion is more or less caseous and consists of multi-nucleated giant cells, voluminous epithelioid cells, with clusters of actinomycetes, some small groups of these being often made out in the interior of the giant cells; the whole being enclosed in a more or less thick layer or envelope of concentrically arranged fusiform cells, the periphery of which becomes gradually combined with the proper tissue of the tumour. After a certain but variable period these nodules, become calcified, and the fungus cannot then be so readily distinguished without recourse to special treatment; but in discharges the minute yellow granules or nodules containing it can always be easily detected by placing a thin layer of the matter on a piece of glass or thin layer of cotton wool and holding it up to the light. With regard to the prevalence of actinomycosis in cattle in different countries, it is impossible to obtain reliable information. If rumour can be accepted, the United States of America has the largest proportion, and it has been imagined that about 5 per cent. of the bovines in England, Germany and Italy are its victims. In France only 95 cases have been noted among 130,000 animals, being 0·72 per 100, or one diseased ox in 1400; and it is seen chiefly in the Manceau and Normandy cattle, those of Brittany and Limousin being almost exempt, as they show only 1 in 10,000. It is to be remarked, however, that these figures only refer to living animals which exhibit the disease externally. Besides the bovine species, the pig is the only other domesticated animal frequently attacked, and it is somewhat curious that the ovine species appears to be endowed with almost complete immunity. Herbivorous and omnivorous animals—such as the ox, sheep, pig and man—have furnished most instances of it, the carnivora being apparently refractory, though one case is recorded as occurring in the dog. The mode in which infection takes place is not yet thoroughly established, but there can scarcely remain any doubt that it is effected by the introduction of the fungus or its sporules through a wounded or abraded surface; in the great majority of instances, in which the head is involved, the actinomycetes are introduced with the food, and possibly by means of grain, straw, or other kind of herbaceous aliment, and in the form in which the tongue is affected, and in which it runs its course most rapidly, the cases are those of animals grazing about harvest time. Piana records a case of lingual actinomycosis, in which the lesion was manifestly due to the penetration of a barley-seed barbule into a fistulous wound, as the barbule was covered with the actinomycetes when he examined it; and Jöhne has found numerous fungi on fragments of straw fixed between the pillars of the soft palate in a pig; while at a recent meeting of the Medical Society of Greifswald, Professor Grawitz exhibited the inferior maxilla of a calf that had succumbed to actinomycosis, the fungous masses and bone of which when sawn through were discovered to contain several grains of corn, it being surmised that the actinomycetes had obtained admission to the tissues through the abrasions made by these grains. This mode of penetration will explain the frequency with which the jaws, mouth and pharynx are involved; wounded gums or carious teeth afford a good lodgment for the parasite. In Italy and Bavaria as well as in Pomerania the actinomycotic glossitis has prevailed in an almost epizootic form during outbreaks of foot-and-mouth disease. Inhalation of dust from dry fodder will account for the pulmonary form, and the invasion of other organs may be accounted for in a similar manner. The fungus is in all probability conveyed through the connective-tissue spaces, the blood stream and lymphatics having little or no share in its distribution in the body.

There is no proof that the malady is contagious in the ordinary acceptation of the term, and if it is at all so it must be in a very feeble degree. The infection of mankind appears to be quite independent of diseased animals, as it exceedingly rarely happens that persons suffering from actinomycosis have had any relations with diseased cattle. Moosbrugger has collected the histories of seventy-five cases, and of all these only one of the persons had been in contact with cattle suffering from the maxillary form, while forty-nine of them had nothing at all to do with cattle. The malady is difficult to produce experimentally, as although it may be successfully developed now and again, yet when a series of inoculations are attempted the result is always failure; so the conclusion arrived at is that the source of infection is the same for mankind as it is for animals, and that the medium of conveyance in both is probably grain of various kinds; as in the majority of cases of human actinomycosis the origin of which has been traced, it has been found that the persons had chewed or unwittingly swallowed a piece of straw, or barley or wheat grains with the hulm on. There does not seem to be any reason whatever to interdict the flesh of affected animals as food for man so long as the actually diseased parts are destroyed.

The treatment of actinomycosis is a matter of great importance, of course, and it has generally been considered, in man at least, an almost incurable, if not a hopeless disease. But Raffer, in the *Riforma Medicale* of February 4th, has reported four cases of recovery, in which the disease was accessible to surgical measures. These were scraping and the injection of antiseptics into the tumours—these injections consisting of a 5 per cent. solution of carbolic acid in glycerine, and if sinuses were present, cotton wool saturated with this fluid was introduced into them. Veterinary surgeons have for a long time employed tincture of iodine with much success as a local application, but quite recently a very distinguished teacher at the Utrecht Veterinary School has drawn attention to the value of iodide of potassium in every form of the disease when given as a drug; from his experience of this agent in cattle affected with actinomycosis, he pronounces it an infallible remedy and Professor Nocard, at a recent meeting of the Paris Central Veterinary Society, in giving an interesting account of the disease, mentioned instances to prove that this medicament promptly and radically cures actinomycotic glossitis in cases which were formerly deemed hopeless. The dose for the ox began with 6 grammes in half a pint of water once a day to commence with, soon increased to 8 grammes, until signs of iodism began to manifest themselves, when it was continued for a few days longer; amendment gradually ensuing without any local treatment. In some instances 6 grammes were given daily for eight days, and when marked amelioration in the symptoms was noted—which was generally in about eight days—the dose was reduced to 4 or 5 grammes at the most. If iodide of potassium is of such potency in this disease as it affects cattle, why should it not be as useful in man? It is certainly worthy of an extensive trial in the human species in which treatment is so often unavailing, especially in those cases where the affected structures cannot be reached. Should the iodism be rather severe there is no great danger to be apprehended, as with the diminution of the dose of the drug or its cessation the more serious symptoms soon subside. It is to be hoped that in medical practice it will prove itself to be as much a specific for this intractable and grave disorder as it is reputed to be in veterinary practice.

MEDICAL PRACTITIONERS AND THE GENERAL ELECTION.

IN illustration of the fact that medical men are becoming alive to the necessities of bringing their particular case before the notice of the candidates for Parliamentary honours we note that a deputation of medical men waited upon Mr. Byron Reed, a candidate for the Eastern Division of Bradford, to ascertain his views on matters affecting the profession in its relation with the public. The importance of the facts is not restricted to one constituency and we therefore trust the attention of all candidates may be directed to the facts which were urged by this deputation.

Dr. Hime, in addressing Mr. Byron Reed, alluded to the progress of unreasonable legislation which singled out the medical profession for the compulsory performance of certain duties which the Legislature had come to regard as of great public utility. Now the medical profession objected strongly to the knowledge which they had gained without the assistance of the Government in their medical studies being claimed by the public as their property under any circumstances and whether they were paid for it or not. At the present time a medical man was under legal compulsion to sign a certificate of death for which he received no remuneration whatever. By law the certificate could only be utilised for the purpose of burial, but in practice it was utilised for insurance, for club purposes and many others. The notification of infectious diseases had also been made compulsory on medical men, a thing which was without analogy in other cases. He drew attention to the enormous number of deaths which were not inquired into although they were not certified by any medical man. It was left absolutely optional with the registrar whether he would accept the tale of any informant as to the circumstances of a death and certify for burial or not. Throughout the whole country medical men found it not infrequently happened that if knowing of the circumstances of a death they thought it necessary to refuse a certificate because they considered there had been foul play, yet, when they notified that fact which was the result of their personal knowledge, the coroner might and did constantly grant certificates of burial. In order to justify him in doing so, as a rule, he sent his policeman to make inquiries. He, of course, only received the information from interested parties, and that was one-sided, and supported his (Dr. Hime's) statements.

Other subjects calling for reform were instanced, including the question of medical and post-mortem examinations in medico-legal cases. The inadequacy and injustice of the present method, by which any practitioner, who may be practically the mainstay of the prosecution, can alone and unaided and without any supervision make a post mortem, on the report of which a life may be dependent, were strongly condemned.

Mr. Byron Reed, in reply, expressed his astonishment at the number of facts brought to his knowledge for the first time. They were such as called for the serious consideration of the Legislature, and he promised, if returned to Parliament that any bill bearing upon the medical profession or its relation to the public, either directly or indirectly, should not be carried without receiving his most serious attention, and he would, as far as in him lay, urge this upon those members of the House with whom he had any personal influence.

The deputation thanked Mr. Byron Reed for the interest he took in the matter and the courtesy with which he had received them and retired.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY, LIMITED.

A WELL-ATTENDED meeting was held on Monday, June 20th, 1892, at Dr. Arthur Roper's house at Lewisham Hill, for the purpose of establishing a division of the above society for the Lewisham, Woolwich, Greenwich, and adjacent parts of the S.E. district. On the motion of Dr. Purvis, seconded by Dr. Stevenson, Dr. Arthur Roper presided. Dr. Roper briefly stated his opinion as to the necessity and utility of such a society for London and the neighbourhood and called upon Dr. Mead to more fully explain the matter. Dr. Mead then went into the details connected with the formation of the Society and the steps which had been taken to place it on a broad and representative basis, and to secure to each member the fullest possible consideration of his case, either locally, or if he deemed it advisable, by the Central Council and the Emergency Committee, both of which were easily accessible. The Legal Council, consisting as it did of men of very high standing, constituted a court of final appeal of the very highest character and value. As to funds, the Council had ample means at their disposal, and were prepared at once to defend any member whose case was worthy of defence. Dr. J. Maxwell, Dr. Mercier and Dr. Purvis spoke in favour of a Society having its central Council in London, and pointed out that by means of the district Councils local cases could be undertaken and probably amicably settled. Dr. Heron pointed out that there was ample room for such a society. This was shown by the large numbers who had already joined this Society. The wish of the Council was to work amicably with any society seeking to benefit the profession. London was pre-eminently the place where any important case affecting the profession should be tried and the difficulties of general practice could always find better and quicker solutions there, seeing that the majority of the leaders of the profession resided in London.

It was then resolved that a division should be formed for that portion of the south-east district and parts adjacent to it. Dr. Arthur Roper was elected president, and Dr. Scott was appointed secretary to the branch. In addition to those who had already joined, seventeen new members gave in their names.

MILITARY SURGERY IN CHILI.

A REPORT has been published of the work done in the San Augustin Hospital, Valparaiso, from Aug. 28th, 1891—when the Constitutional party gained possession of the city after Balmaceda's defeat—to Jan. 15th, 1892, when the hospital was closed. It will be remembered that the fighting had been discontinued four or five days previously, the great battle having taken place from the 21st to the 23rd. When Señor Benjamin Edwards took charge of the hospital as administrator on Aug. 28th the building was empty and he had to make the best arrangements he could in the disorganised state of the town for the reception and care of the wounded who were being brought in from the field of battle. The medical service had to be organised. Dr. José Rivero was appointed chief medical officer and a staff of surgeons and dressers was soon got together, a good deal of assistance being obtained from the surgeons of the English, French, German and United States vessels at anchor in the harbour.

During the period the hospital was open 1008 patients were treated, not reckoning those who were passed on to other hospitals on ambulances within the first week or two. Of this number 936 were discharged cured or improved and seventy-two died. In 132 cases there were two or more wounds, and in five there were four bullet wounds. The rifle used seems to have been the Mannlicher, which has a small, highly polished, steel-tipped projectile with a very high velocity and a gyratory motion. The wounds were as a rule small and not dangerous to life, though sufficiently serious to put a man *hors de combat* for several weeks. The orifices of entrance and exit were very small and generally cicatrised quickly, with very little suppuration. When the path was merely through muscular tissue healing generally took place without any trouble, just as in a subcutaneous wound—that is, if care had been taken to remove all foreign bodies. The orifice of entrance had clean edges and a diameter much smaller than that of the ball. The orifice of exit was very different and was of various shapes, according to the bony or tendinous tissues the ball had met with. Owing to the outer casing with which the bullet is furnished it generally preserves its form and so produces far less injury to the tissues than the leaden bullets used in the Franco-German war, which frequently broke or became splayed out when they struck a bone. Extraction is too, of course, a much easier matter than with the old-fashioned bullets. In many cases where considerable osseous lesions were produced the wounds healed well and rapidly.

There were twenty-four cases of hospital gangrene attributable to the impossibility of maintaining rigorous aseptic conditions, and doubtless accelerated and aggravated by the drinking habits of the patients. The wounds of the upper extremity are returned as 23 per cent. of the total wounds; those of the lower extremity being 42 per cent. The mortality of fractures of the femur was 25 per cent. The head of the femur was removed five times, with three deaths. The mortality of wounds of the thorax was 54·5 per cent., which compares favourably with that of the Franco-German war, which was over 60 per cent., or that of our troops in the Crimea, which was nearly 70 per cent. There were ten cases of wounds of the abdominal walls, all of which recovered, and sixteen penetrating wounds, of which six recovered, thus giving a mortality for all abdominal wounds of 62·5 per cent., as against 87 per cent. in the Franco-German war and 92 per cent. in the English army in the Crimea. The mortality of the cases of fractures was 6·96 per cent., the number of operations 46·03, and the number of cases where conservative surgery was successful was 47·01 per cent.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following list is a continuation of the contributions received at the Mansion House up to Thursday last in aid of the Metropolitan Hospital Sunday Fund:—

	£	s.	d.
St. Peter's, Vere-street (Rev. W. Page Roberts)	323	3	7
Trinity Church, Hampstead (Rev. H. Sharpe, B.D.)	101	10	6
St. John's, Paddington (Rev. Gilbert Karney)	130	8	11
St. Michael's, Paddington (Rev. G. F. Prescott)	173	17	10
Holy Trinity, Paddington (Rev. Preb. D. Moore)	151	13	7
St. Alban's, Streatham-park (Rev. S. M. Ranson)	167	17	10
St. Paul's, Onslow-square (Rev. H. Webb-Peploe)	324	11	7
St. Peter's, Eaton-square, £610 1 1 St. John's, Wilton-road .. 101 13 4 St. Peter's Chapel .. 10 19 8 } (Rev. John Storrs)	722	14	1
St. James's, Clapham (Rev. F. A. C. Lillingstone)	130	18	3
St. Peter's, Brockley (Rev. C. H. Grundy)	102	0	0
St. Andrew's, Wells-street (Rev. W. T. Houldsworth)	111	15	6
St. Paul's, Knightsbridge (Rev. H. M. Villiers)	300	8	10
Union Congregational Church and Mission, Islington (Rev. W. H. Harwood)	100	0	0
St. Luke's, Nutford-place (Rev. B. H. Alford)	88	7	9
Streatham Parish Church and Mission (Rev. Canon Nicholl)	75	18	7
Church of the Ascension, Balham-hill (Rev. Herbert Curtis)	95	5	6
St. Andrew's, Stockwell (Rev. C. E. Escreet)	20	0	10
Holy Trinity, Anerley ((Rev. C. A. Keightley)	60	11	0
Lewisham Parish Church (Rev. S. Bickersteth)	44	0	6
Hornsey Parish Church and Chapel of Ease (Rev. James Jeakes)	57	5	10
Waltham Abbey Parish Church and Hamlet Chapels (Rev. F. B. Johnston)	56	14	6
St. Saviour's, Brixton-hill (Rev. F. G. Sanders)	20	10	3
Acton Parish Church and Missions (Rev. C. M. Harvey)	41	7	1
Highgate Parish Church (Rev. J. M. Andrews)	35	1	6
"F." (a further)	50	0	0
Trinity Presbyterian Church, Clapham-road (Rev. D. MacEwan, D.D.)	20	6	0
Heath-street Baptist Chapel, Hampstead (Rev. W. Brock)	55	16	4
St. Mark's, Notting-hill (Rev. W. E. Emmet)	33	8	7
St. Dunstan's, East Acton (Rev. T. M. Hayter)	30	1	9
Fulham Parish Church (Rev. W. Carter Muriel)	34	15	0
Christ Church, Chislehurst (Rev. W. Fleming)	66	11	11
W. M. Cross, Esq. (C.C.)	20	0	0
St. Paul's, Greenwich (Rev. A. Love)	20	5	8
Gordon-square Catholic Apostolic Church (H. S. Hume, Esq.)	20	2	11
Kingston-on-Thames Parish Church (Rev. A. S. W. Young)	25	0	0
St. Alban's, Holborn (Rev. R. A. J. Suckling)	50	3	7
St. Andrew's, Leytonstone (Rev. W. Manning)	23	12	6
St. Thomas's, Camden Town (Rev. H. W. Reynolds)	21	4	6
St. Peter's, Norbiton (Rev. John Booker)	22	2	2
Willesden Parish Church (Ven. Archdeacon Atlay)	23	8	8
Wandsworth Wesleyan Circuit (Rev. G. R. Osborn)	22	4	7
Trinity Presbyterian Church, Notting-hill (Rev. Dr. H. S. Paterson)	47	6	2
St. John's, Downshire-hill (Rev. Canon Girdlestone)	57	13	3
St. John's, Redhill (Rev. J. M. Gordon)	51	11	9
Christ Church, Beckenham (Rev. John Harding)	38	5	10
Allen-street Congregational Church, Kensington (Rev. C. S. Horne, M.A.)	78	5	6
Christ Church, Westminster-road (Rev. Newman Hall)	20	8	8
St. Andrew's Presbyterian Church, Upper Norwood (Rev. R. Taylor)	25	0	0
St. George's, Tufnell-park (Rev. W. T. Hollins)	50	8	0
St. Luke's, West Norwood (Rev. H. W. Cooper)	23	0	0
Friends' Meeting House, Stoke Newington (E. R. Allen, Esq.)	24	10	9
St. Mary's, Graham-street (Rev. H. M. Villiers)	20	17	1
St. George's, Westcombe-park (Rev. W. Soames)	30	4	3
Brixton-road Congregational Church (Rev. B. J. Snell, M.A.)	59	12	8
St. Saviour's, Denmark-park (Rev. H. S. Swithinbank)	25	14	9
St. Mary Magdalene, Paddington (Rev. R. T. West, D.D.)	33	1	7
Emmanuel Church, Maida-hill (Rev. J. Gosset Tanner)	28	3	0
Denmark-hill German Lutheran Church (Rev. Alex. Wynard)	64	17	1
Chapel Royal, St. James's (Rev. E. Sheppard)	77	11	0
St. Mark's, Kennington (Rev. A. Gerald Bowman)	40	17	2
St. John's, Bromley, Kent (Rev. P. Barker)	22	3	8
St. John's Presbyterian Church, Forest-hill (Rev. W. Martin, M.A.)	55	0	0
All Saints', Blackheath (Rev. H. Welsford Snell)	61	2	3
St. Paul's, Beckenham (Rev. Charles Green)	111	10	4
Dartford Parish Church and Mission (Rev. Allan H. Watts)	24	1	8
Trinity Church, Hampstead (Rev. Hy. Sharpe, B.D.)	101	10	6
Holy Innocents', Hornsey (Rev. R. W. Powell)	44	15	9
St. James's Parish Church, Paddington (Rev. W. Abbott)	123	4	6
St. Martin's-in-the-Fields Parish Church (Rev. J. F. Kitto)	107	0	2
Immanuel Church, Streatham (Rev. G. S. Streatfeild)	100	6	10
St. Bartholomew's with St. Matthew's, Sydenham (Right Rev. Lord Bishop of Southwark)	141	5	7
Christ Church, Westminster (Rev. F. K. Aglionby)	20	0	0
St. John the Evangelist, Brownswood Park (Rev. G. B. Lattreille)	25	2	1
Christ Church, Streatham (Rev. C. S. Nicholl)	111	10	0
Christ Church, Gypsy Hill (Rev. R. Allen; morning collection)	71	2	0
All Saints', Paddington (Rev. J. Machonochy)	55	7	8
St. Anne's, Holloway (Rev. W. H. Chambers, D.D.)	28	8	6
Chapel of Ease, Islington (Rev. W. Nelson Winn)	21	14	0
St. Thomas's, Regent-street (Rev. Philip T. Bainbridge; half of offertory)	40	14	7
Stepney Parish Church (Rev. E. Hoskyns)	35	4	2
Holy Trinity, Knightsbridge (Rev. C. C. Scholefield)	50	6	7
St. Thomas's, Stamford hill (Rev. F. W. Kingsford)	31	12	5
St. Mary's, Bryanston-square (Rev. the Hon. Canon Leigh)	80	10	5
St. Saviour's, Fitzroy-square (Rev. Thos. Turner)	34	10	0
Westbourne Park Baptist Chapel (Rev. John Clifford, D.D.)	29	2	0
West Hackney Parish Church	42	19	5
All Saints', Camberwell (Rev. T. J. Gaster)	31	1	11
Park Chapel, Crouch End (Rev. A. Rowland)	50	0	0
Emmanuel Church, Forest Gate (Rev. E. Wynne)	25	2	6
St. Mary the Virgin, Primrose-hill (Rev. Albert Spencer)	44	6	3
Wanstead Friends' Meeting (J. Lyster Godlee, Esq.)	43	17	3
South-street Baptist Chapel, Greenwich (Rev. C. Spurgeon)	21	17	8
Argyle-square New Jerusalem Church (Rev. J. Presland)	20	0	0
Box outside Mansion House	14	18	9

N.B.—The congregational collections are mostly an improvement on last year, but the gross receipts must be less for 1892 unless donations are sent to the Lord Mayor to form some equivalent to the £5000 sent in 1891 by the late Duke of Cleveland.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Lewes Urban District.—Mr. J. G. Braden has a fairly favourable report to give for last year. The death-rate was 15·1 per 1000 living; but the decennial average is 17·6, and this is very properly regarded as too high for a town like Lewes. The drainage of Lewes is receiving and calls for attention. But the progress made is slow and in the Cliffe portion of the district, which lies low, there are indications that amendments are needed. The town water is good and arrangements are being made to ensure its being abundant. The hospital was not used last year, although a number of scarlet fever attacks occurred. In only two instances did multiple cases arise and it is implied that the attacks did not occur under circumstances actually calling for removal to hospital. In short, the Lewes hospital seems to serve rather for emergencies than for any sustained isolation of infectious cases.

Coventry Urban District.—Coventry is an old city and has sanitary difficulties to contend with, but during the last five decennial periods the general rate of mortality has gone down from 27 to 18·5 per 1000. Last year it stood at 19·6. House property and its defects constitute a substantial hindrance to sanitary progress, and Dr. Mark Fenton urges prominently the need for the adoption of more efficient measures for the improvement of the dwellings of the poor. An increased water-supply and better arrangements for the scavenging of refuse are also needed. The city isolation hospital has all along been satisfactorily worked under Dr. Fenton's supervision. In 1874, when it was first opened, twelve patients were admitted, but since then the annual admissions have reached and even exceeded 200. Every effort is made to prevent the spread of infection by means of isolation, and in this connexion it may be mentioned that whereas the zymotic rate for the ten years ending 1881 was 3·3 per 1000, it was only 1·7 in the decennium terminating last year.

Worsbrough Urban District.—The death-rate of this little urban district of less than 10,000 inhabitants reached 28·7 per 1000 last year, the excess being due to measles, scarlet fever, influenza, and whooping-cough, diseases which had not been brought about by defective sanitary circumstances. Unfortunately, little could be done as to removal of scarlet fever cases to the Barnsley hospital. Dr. M. T. Sadler makes certain suggestions as to improvement in scavenging and as to overcrowding. Otherwise sanitary matters seem in a fairly satisfactory state.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6378 births and 3348 deaths were registered during the week ending July 2nd. The annual rate of mortality in these towns, which had been 17·8 and 17·3 per 1000 in the preceding two weeks, further declined last week to 17·1. In London the rate was 16·8 per 1000, while it averaged 17·3 in the thirty-two provincial towns. The lowest rates in these towns were 9·4 in Brighton, 13·6 in Leeds, 13·7 in Blackburn and 13·8 in Hull; the highest rates were 21·8 in Oldham, 21·9 in Manchester, 22·4 in Sunderland and 22·5 in Preston. The 3348 deaths included 486 which were referred to the principal zymotic diseases, against 514 and 477 in the preceding two weeks; of these, 170 resulted from measles, 108 from diarrhœa, 78 from whooping-cough, 55 from diphtheria, 46 from scarlet fever, 34 from "fever" (principally enteric) and 5 from small-pox. No fatal case of any of these diseases occurred last week in Gateshead; in the other towns they caused the lowest death-rates in Brighton, Bradford and Burnley, and the highest rates in West Ham, Birkenhead, Preston and Sunderland. The greatest mortality from measles occurred in Sheffield, Birkenhead, Birmingham, Leicester, Halifax, West Ham and Sunderland; from scarlet fever in Swansea; from whooping-cough in Sunderland, Croydon, Wolverhampton and Preston; from "fever" Birkenhead; and from diarrhœa in Plymouth, Leicester, Sunderland, Preston and Norwich. The 55 deaths from diphtheria included 38 in London, 3 in Leeds and 2 each in West Ham, Birmingham and Bolton. Four fatal cases of small-pox were registered in London and one in Halifax, but not one in any other of the thirty-three large towns; 35 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and 5 in the Highgate Small-pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2211, against numbers increasing from 1226 to 2066 on the preceding fourteen Saturdays; 331 new cases were admitted during the week, against 213 and 284 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 304 to 181 in the preceding seven weeks, rose again to 185 last week, but were 27 below the corrected average. The causes of 59, or 1·8 per cent., of the deaths in the thirty-three towns were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Brighton, Portsmouth, Cardiff, Blackburn, Sunderland and in nine other smaller towns; the largest proportions of uncertified deaths were registered in Salford, Oldham, Halifax and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 17·7 and 19·3 per 1000 in the preceding two weeks, declined again to 18·0 during the week ending July 2nd, but exceeded by 0·9 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 8·6 in Perth and 9·1 in Greenock to 20·3 in Glasgow and 20·8 in Aberdeen. The 502 deaths in these towns included 31 which were referred to measles, 23 to whooping-cough, 9 to scarlet fever, 9 to diarrhœa, 7 to diphtheria, 4 to "fever," and not one to small-pox. In all, 83 deaths resulted from these principal zymotic diseases, against 66 and 85 in the preceding two weeks. These 83 deaths were equal to an annual rate of 3·1 per 1000, which exceeded by 0·6 the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 27 and 35 in the preceding two weeks, declined again to 31 last week, of which 27 occurred in Glasgow and 3 in Edinburgh. The deaths referred to whooping-cough, which had been 27 in each of the previous two weeks, fell to 23 last week and included 19 in Glasgow. The 9 fatal cases of scarlet fever showed an increase of 6 upon the number in the preceding week; 5 occurred in Glasgow and 3 in Edinburgh. The deaths from diphtheria, which had been 2 and 8 in the previous two weeks, were 7 last week, of which 5 were recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had declined from 124 to 80 in the preceding three weeks, rose again to 89 last week, but were 17 below the number in the corresponding week of last year. The causes of 57, or more than 11 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 31·6 and 27·4 per 1000 in the preceding two weeks, further declined again to 24·6 during the week ending July 2nd. During the thirteen weeks of the quarter ending on Saturday last the death-rate in the city averaged 31·3 per 1000, against 18·9 in London and 17·8 in Edinburgh. The 165 deaths in Dublin during the week under notice showed a decline of 19 from the number in the preceding week and included 20 which were referred to measles, 1 to whooping-cough, 1 to "fever," 1 to diarrhœa and not one either to small-pox, scarlet fever, or diphtheria. In all, 23 deaths resulted from these principal zymotic diseases, equal to an annual rate of 3·4 per 1000, the zymotic death-rate during the same period being 3·1 in London and 2·2 in Edinburgh. The fatal cases of measles, which had been 27 and 24 in the preceding two weeks, further declined to 20 last week. The deaths referred to whooping-cough, which had been 5 in each of the previous two weeks, declined to one last week. The 165 deaths registered in Dublin last week included 25 of infants under one year of age and 30 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a decline from those recorded in recent weeks. Four inquest cases and 4 deaths from violence were registered; and 60, or more than a third, of the deaths occurred in public institutions. The causes of 16, or more than 9 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

CHOLERA AT LAHORE.

THE outbreak of cholera among the medical students at Lahore is said to be of a severe type. Four cases have proved fatal since June 8th, among the victims being a European lady student. A few fatal cases have also occurred among the native patients in the upper wards of the Mayo Hospital.

GOOD SERVICE PENSION.

It is notified that, on the recommendation of the Government of India, Her Majesty's Government has been pleased to confer a good-service pension on the undermentioned officer from date specified:—In place of Colonel C. S. Maclean, C.B., C.I.E., I.S.C., who succeeded to colonel's allowance on Dec. 14th, 1891, Surgeon-Colonel Archibald Hamilton Hilson, M.D., I.M.S.

EMPLOYMENT FOR ARMY RESERVISTS.

Medical officers are quite as much interested, of course, as other officers in the well-being of soldiers leaving the Army for the Reserve, and they will be glad to learn therefore that the recent appeal by the War Office to the railway companies promises to be successful. It has been intimated to Mr. Brodrick, Financial Secretary to the War Office, that the companies will be prepared to give about 2000 vacancies annually to Army Reservists of good character. This, taken in connexion with their employment as postmen, which will be hereafter open to soldiers who have served with the colours, is a move in the right direction, and the departments concerned are to be congratulated on having tried successfully to benefit the soldier's position by increasing the opportunities for his employment in civil life.

SICKNESS IN THE MEDITERRANEAN FLEET.

With regard to the alleged sickness in the Mediterranean fleet it is pertinent to remark that, according to past experience, an increase in the number of fever cases at this season is to be expected. Much of the sickness in the summer is attributable to the heat and local causes, aided by indiscretions of diet on the part of individuals; that which is of a serious character is due to typhoid fever and to another form of fever, the exact nature and causes of which do not seem to have been fully ascertained. Malta and Gibraltar have of late years been healthy, we believe.

THE WANT OF CIVIL SURGEONS AT INDIAN STATIONS.

We recently called attention to the alleged dearth of doctors in civil stations of Bengal according to the lay papers of that country. Our contemporary, the *Indian Medical Gazette* for last month, alluding to the same subject, says that there is a general impression prevalent that the medical needs of the community at these stations is not sufficiently realised by the Government; localities not remarkable for their healthiness are left with insufficient medical provision.

EXPERIMENTS WITH SNAKE POISON.

As our readers are aware, the annual loss of life from snake-bite in India is very large. The committee for the management of the Zoological Gardens in Calcutta are constructing a snake-house to contain specimens of all the principal poisonous snakes of the country, in connexion with which it is proposed, as we have already informed our readers, to fit up a small laboratory for conducting investigations bearing upon the pathology of snake-bite and cognate subjects. The Government of Bengal has addressed the Government of India on the subject. If the latter would make a grant of Rs.5000 towards this object the Lieutenant-Governor of Bengal will endeavour to make up the required balance from provincial funds. As it is understood that Dr. D. D. Cunningham, F.R.S., will take an active part in organising and promoting the necessary inquiries and carrying out the necessary experiments, it is to be hoped that the project will be carried to a successful issue. The various alleged remedies for snake-bite from time to time brought to notice might then be tested.

MOVEMENTS OF THE MEDICAL STAFF.

The retirement on retired pay of Surgeon-Lieutenant-Colonel C. E. Dwyer has been cancelled. Surgeon-Lieutenant-Colonel Blood has resumed duty at Winchester from sick leave. Surgeon-Major W. Campbell has assumed medical charge of the camp at Bisley. Surgeon-Lieutenant-Colonel D. B. Brown has rejoined at Piershill from leave. Surgeon-Major A. A. Lyle has joined at York from Chester. Brigade-Surgeon-Lieutenant-Colonel R. H. Carew has proceeded from Meean Meer to Kashmir on sick leave, and Surgeon-Lieutenant-Colonel J. D. Gunning from Bareilly to Mussoorie. Surgeon-Lieutenant-Colonel Gabbett has obtained sick leave from Madras. Brigade-Surgeon-Lieutenant-Colonel Riordan is proceeding to England from Cyprus on leave. Surgeon-Lieutenant-Colonel Barrow is expected in England from Hong-Kong, on relief. Brigade-Surgeon-Lieutenant-Colonel T. D. O'Farrell is placed on retired pay. Surgeon-Lieutenant-Colonel Supple has resumed his duties as senior medical officer in Jersey. Surgeon-Captain W. H. P. Lewis has taken up duty at the Arsenal, Woolwich. Surgeon-Captains Sparke, Hall and Burke have respectively left Warley and Colchester on leave. Surgeon-Captain J. J. C. Watson has proceeded to Bisley Camp from Aldershot and D. O'Connell has rejoined at Aldershot from leave. Surgeon-Captain S. R. Wiles has been transferred from York to Chester. The following officers have obtained sick leave to England from Burmah and Bombay severally:—Surgeon-Captains Green and Holyoake. The leave of Surgeon-Captains C. C. Reilly and J. S. Black from Bengal has been extended. Surgeon-Majors Feltham and Asbury have been granted leave to England from Madras. Surgeon-Captain Sexton has joined at the Curragh for duty and Surgeon-Captain Lensham has proceeded to Dublin. Surgeon-Captains H. Thompson and Hanley are under orders for foreign service. Brigade-Surgeon-Lieutenant-Colonel Ignatius McDonogh O'Farrell, F.R.C.S.I., is placed on retired pay (dated June 16th, 1892).—Surgeon-Captain R. C. Johnston, M.B., is placed on retired pay (dated July 6th, 1892).—Surgeon-Lieutenant-Colonel C. E. Dwyer has been appointed to the Recruiting Staff in London.

ARMY TITLES AND RETIRED MEDICAL OFFICERS.

An agitation is, we understand, being set on foot to procure for army medical officers who were on the Retired List prior to the issue of the Warrant conferring the new titles the right to assume the titles *now* enjoyed by their colleagues on full pay. As a considerable number of these officers are liable to be recalled to service on "an emergency," the application is, in their case at any rate, a reasonable one and seems to deserve favourable consideration, as, if it should be refused, complications as to seniority would arise which th concession would promptly avert.

INDIAN MEDICAL SERVICE.

The Commander-in-Chief is pleased to make the following appointments:—5th Bombay Cavalry (Sind Horse): Surgeon-Captain J. G. Hojel to the medical charge, vice Surgeon-Captain T. E. Dyson, transferred to the Civil Department.—7th Bombay Lancers (Baluch Horse): Surgeon-Captain J. B. Jameson to officiate in medical charge, vice Surgeon-Captain J. L. T. Jones, on furlough.—2nd Bombay Infantry (Grenadiers): Surgeon-Captain C. T. Hudson to officiate in medical charge, vice Surgeon-Captain A. Milne, transferred temporarily to the Civil Department.—Surgeon-Captain B. D. Basu is posted to general duty, Sind District.

Surgeon-Captain H. I. Pocock, serving in the Bengal Command, has been appointed to the civil medical charge of Roorkee, in addition to his military duties.—The following changes of station have recently taken place:—Surgeon-Majors: C. H. Swayne, Dublin to Londonderry; P. M. Ellis, to Aldershot; P. J. O. Sullivan Bengal to Dublin; H. Grier, Nova Scotia to Aldershot; A. Harding, Bombay to Aldershot; E. H. Myles, Swansea to Devonport; G. F. A. Smythe, Dover to Canterbury; W. O. Wolseley, to Chester; P. H. Fox, Madras to Ballincollig. Surgeon-Captains: M. W. Kerin Cork to Dublin; J. G. W. Crofts, Edinburgh to Home District; M. O'C. Drury, Bombay to Aldershot; H. A. de Lom, Dover to Bombay; A. Perry, Home District to Ceylon; H. J. Fletcher, Bengal to Stoneleigh; G. G. Adams, Horfield to Cirencester; J. M. F. Shine, Bengal to Dublin; W. H. Bennett, Madras to Lonford; P. C. H. Gordon, Edinburgh to Ayr; A. L. H. Dixon, Bombay to Aldershot; P. J. R. Nunnerley, Chester to Stafford; C. Garner, Bermuda to Devonport; J. D. Deacon, Ballincollig to Cork; G. A. Wade, Jamaica to Devonport; C. W. R. Healey, Lichfield to Bengal; W. E. Hardy, Colchester to Dover.—The undermentioned Surgeon-Lieutenants have been transferred from Aldershot as follows:—W. G. Beyts, to Edinburgh; S. H. Withers, to Golden-hill Fort; L. A. Mitchell, to Pembroke Dock; J. Henessy, to Horfield; C. B. Martin, to Alnwick; Surgeon-Lieutenant J. M'Laughlin, Sierra Leone to Bathurst; R. Crofts, Sierra Leone to Lagos.

Bengal.—The services of the undermentioned Officers of the Bengal Medical Establishment are placed temporarily at the disposal of the Bengal Government:—Surgeon-Captain C. E. Sunder, M.B.; Surgeon-Captain A. H. Nott, M.B.; and Surgeon-Captain J. T. Calvert, M.B.

Surgeon-Major Owen, I.M.S., Medical Officer on Lord Roberts' Staff, has been appointed Civil Surgeon at Ajmere.

The Governor in Council is pleased to appoint Surgeon-Major J. S. Wilkins, D.S.O., to act as Civil Surgeon, Kaira, in addition to his own duties, during the absence of Surgeon-Captain W. H. Quick on privilege leave.

Surgeon R. Baker, M.A., M.D., and Surgeon-Major H. M'Calman, M.D., respectively delivered over and received charge of the Batnagiri Gaol on June 4th, 1892.

YEOMANRY CAVALRY.—Ayrshire: Surgeon-Captain W. J. Naismith, M.D., to be Surgeon-Major (dated July 2nd, 1892).

VOLUNTEER CORPS.—*Artillery:* 2nd Cinque Ports (Eastern Division, Royal Artillery): The undermentioned Surgeon-Lieutenants to be Surgeon-Captains:—F. M. Wallis and F. H. Shaw (both dated July 2nd, 1892).—*Rifle:* 1st Volunteer Battalion, the King's (Liverpool Regiment): *James Charles Bradshaw, Gent.*, to be Surgeon-Lieutenant (dated July 2nd, 1892).—1st Volunteer Battalion, the Suffolk Regiment: Surgeon-Lieutenant S. S. Hoyland to be Surgeon-Captain (dated July 2nd, 1892).—(2nd Berwickshire) Volunteer Battalion, the King's Own Scottish Borderers: Surgeon-Lieutenant A. D. Vardon resigns his commission (dated July 2nd, 1892).—1st (Pembrokeshire) Volunteer Battalion, the Welsh Regiment: Surgeon-Lieutenant W. H. Lloyd to be Surgeon-Captain (dated July 2nd, 1892).—2nd (Renfrewshire) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Captain W. G. Stevens to be Surgeon-Major (dated July 2nd, 1892).

Correspondence.

"Audi alteram partem."

"TOOTH CULTURE."

To the Editors of THE LANCET.

SIRS,—In his interesting lecture on "Tooth Culture," Sir James Crichton-Browne enumerates four causes of caries; among them he includes imperfect mastication. He thinks "that the greater prevalence of dental caries in these days is probably in some measure dependent on the softness and pulpiness of the food on which we for the most part feed." I have for some time been strongly of opinion that this is the great cause of caries among the moderns. He points out that soft food means comparatively little mastication and use of the teeth, that the flow of the saliva is thereby diminished and that in consequence, the teeth not being properly cleansed by an abundant flow of saliva, nor by the scrubbing action of the parts engaged in mastication, particles of food are lodged about the teeth and gums and by their decomposition injure the teeth. Few can doubt the reasonableness of that view, but I venture to think that imperfect mastication favours dental caries in another and even more potent way—namely, by interfering with the proper development not only of the jaws, thereby causing over crowding of the teeth (an acknowledged cause of decay), but of the teeth themselves; and it goes without saying that an ill-grown tooth is more liable to decay than one well developed. This fact is well attested by the early decay of the puny wisdom teeth. That imperfect mastication prevents the teeth from properly developing I can testify from observation, and the manner in which this result is brought about is obvious. With the movements of mastication the jaws become more vascular, there is a large access of blood to the dental arteries, the teeth move perceptibly in their sockets and their blood-supply is greatly increased. They are in fact outgrowths of the jaws, so that it is absolutely impossible to get well-developed teeth in an ill-developed jaw. The teeth in such a jaw may indeed be large, but careful examination of a section of them shows them to be ill-developed. One of the most noticeable effects of imperfect mastication on maxilliary development is atrophy of the alveolar processes and early shedding of the teeth. Examine the mouth of a woman—say, from fifty to sixty years old—in a London hospital. It will very often be found that most of the teeth have dropped out and that only two or three remain, projecting far out of their sockets. Such teeth are of course more than useless in that they completely prevent the proper closing of the jaws, which, together with the muscles of mastication, remain practically in a state of disuse. No wonder that alveolar absorption proceeds apace, that the gums are spongy, and the whole interior of the mouth in a loathsome state, a state to which Sir James Crichton-Browne's apt quotation from Shakespeare but too truly applies. Among poor women the teeth are seldom worn down to any appreciable extent, so little have they been used, and indeed among civilised people one never finds the same degree of attrition met with in the teeth of ancient skulls, and this indicates an amount of mastication scarcely less than that of the ruminant. I have little doubt that by a proper use of the jaws in mastication not only might overcrowding be largely prevented, but a healthier development of the individual teeth ensured also and dental caries very considerably diminished. Of the many writers upon the teeth whom I have consulted from time to time Mr. Coleman is the only one who has insisted upon the point I urge—viz., that ill-growth of the teeth, resulting from imperfect use, is a cause of decay. He, however, it is only fair to say, is most emphatic. I would observe in conclusion that the atrophy of the jaws among civilised peoples is only in part the outcome of heredity, that it is in the main acquired by the individual himself, for Weismann, even though he may not have proved that acquired characters are never inherited, has yet made it quite clear that they are not inherited to the degree generally supposed. If therefore an individual were from early childhood to adult age to use his jaws to the same extent as his primitive ancestors used theirs they would develop, if not to the size of the ancestral jaw, certainly to an extent which would surprise many. I look forward, Sirs, to the time when "gymnastics of the jaws" shall be added to other forms of exercise. Meanwhile let us foster the instinct to bite hard things so clearly displayed by children and let us teach the laity to get rid of the "bogey" that the cracking of nuts—the best possible exercise for the jaws and teeth—is injurious to them.

I am, Sirs, yours faithfully,
HARRY CAMPBELL.
Guilford-street, W.C., July 5th, 1892.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me to remark in reference to Sir James Crichton-Browne's address on Tooth Culture, reported in your issue of July 2nd, that his statement that the "gastro-intestinal mucous membrane of the embryo" forms the "pulps and sacs of the teeth" is not quite correct. Embryologists are generally agreed that the mouth is no part of the primitive alimentary canal, but is formed by an involution of the parts of the face, the enamel being formed from the oral epithelium and epiblastic in origin; whilst the pulp and sac of the tooth, arising from the sub-mucous connective tissue of the mouth, are developed from the mesoblast. The gastro-intestinal mucous membrane is derived from the hypoblast. The teeth have long been known as dermal appendages.

I am, Sirs, yours obediently,
F. J. BENNETT, M.R.C.S., L.D.S.,
Assistant Surgeon, Dental Hospital of London.
July 5th, 1892.

"SOME PRINCIPLES TO BE OBSERVED IN THE CLOSURE OF ABDOMINAL INCISIONS."

To the Editors of THE LANCET.

SIRS,—In your leading article upon the above subject (p. 33) you urge that too much attention cannot be paid to the closing of abdominal scars to prevent their subsequent yielding. In the first group of cases you refer to ordinary laparotomy wounds. In these there can be no doubt, if a firm cicatrix is to be ensured, care must be taken to unite all the divided tissues accurately, peritoneum to peritoneum, muscle to muscle, skin to skin. To do this I think it is only necessary to pass the sutures deeply through the parietes on each side of the wound, being careful that the needle properly transfixes each structure. If this rule is attended to there will be no occasion to use the buried sutures, which are tedious to apply and often cause after-trouble.

So important do I consider it to be to bring the muscular surface together that I have long taught the importance, in ordinary abdominal sections, of making the incision slightly to one side of the middle line, so as to ensure the division of the muscle in preference to dividing the tendinous linea alba, which rarely unites firmly, and I have frequently noticed by this latter incision that there is much more tendency to bulging of the cicatrix. I consider it also most essential in all cases to have a well-fitting belt applied before the patient is allowed to sit up. In the second series of cases you allude to—viz., those in which a permanent opening into a mucous canal is to be obtained—I am glad to find you condemn the practice of suturing the parietal peritoneum to the skin. For the last three or four years I have ceased to adopt this course, as I am convinced that it is not only an unnecessary waste of time, but that it is positively harmful, as the cicatrix thus formed is not nearly so firm as when the divided surface of the wound is brought into apposition with the visceral peritoneum. When speaking on this point at the medical societies I have always insisted upon this.[1] As to the means of fixing the viscus to the skin, this must vary according to circumstances, but in the greater number of cases I do not consider it necessary to stitch the visceral peritoneum to the skin. The circumstances which should influence one in this matter may briefly be considered: first when it is desired to form a permanent fistulous opening as in gastrostomy and jejunostomy; secondly, in som cases of intestinal obstruction, when it is desired only t drain the distended bowel for a short time to enable patient to recover strength before a more radical operation is performed; and thirdly, in those cases in which an artificial anus has to be formed. In the first se of cases I am strongly in favour of slinging the stomach or intestine by means of four sutures, placed in the form of a parallelogram, through the serous and muscul coats, passing through the abdominal parietes, two sets o each side of the wound and then through an oval plate with central opening, the threads being tied on the plate in pairs Finally, the portion of the viscus enclosed in the parallelogram is drawn through the wound and central opening in the plate and fixed in position by transfixing it with a harelip pin. This operation was described by me at the Clinica Society's meeting and is also fully described in my work "Surgical Diseases of the Stomach and Intestines." In th second series of cases the plan adopted and so well describe by Mr. Greig Smith in his work on Abdominal Surgery shoul be adopted and in the third series it is not necessary t stitch the viscus to the wound. Every purpose may attained by drawing a loop of intestine through the incision in the parietes and passing a suture through the parietes o one side, then through the meso-colon in sigmoidostomy lumbar colotomy, and finally through the parietes on th opposite side of the incision, the suture being fastened ov a bone bar on each side. By adopting this plan there is possibility of any portion of the omentum or small intesti being forced out of the wound alongside of the knuckle intestine, the only other sutures necessary being one each end of the incision, passing through the parietes in th ordinary manner.

I am, Sirs, yours faithfully,
FREDK. BOWREMAN JESSETT, F.R.C.S.
Buckingham Palace Mansions, July 5th, 1892.

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[1] THE LANCET, vol. ii. 1891, p. 957.

"RHEUMATOID ARTHRITIS AND RHEUMATIC ARTHRITIS."

To the Editors of THE LANCET.

SIRS,—In referring to Dr. King's letter on this subject in your issue of June 11th, which professes to deal directly with certain statements of mine occurring in a paper read at the Royal Medical and Chirurgical Society, permit me to examine some of his arguments. At the very outset he destroys the sense of the whole context of one portion of my remarks by a misquotation—namely, by the omission of the word "hereditary" in the passage "it [rheumatoid arthritis] is a constitutional disease of debility, invariably having a *hereditary* history of phthisis or gout or both." I spoke of rheumatoid arthritis "occurring in cases with a strong hereditary history of gout, phthisis or struma," using the word struma to indicate tuberculous affection of any organ or part except the lung. There are so many symptoms present, either acquired or hereditary, sufficient to account for the debility that to investigate and ultimately prove the presence of the bacillus in these would merely corroborate still further my opinions, whereas its absence, while perhaps being somewhat disappointing in cases apparently markedly tuberculous, would certainly not shake my opinion of a wasting and debilitating disease, if certain clinical proofs were not wanting. Dr. King further thinks *that acute rheumatism should have greater prominence* as a cause of rheumatoid arthritis. Why "comic" that in chronic rheumatic arthritis the young seldom suffer? Does Dr. King think a patient must be old before he can have a chronic complaint? Lastly, in his treatment of giving salicylates in rheumatoid cases, when suffering from increased pain and swelling, it would be interesting to know whether the rheumatic element was conspicuously absent.

I am, Sirs, yours faithfully,

HUGH LANE.

Surgeon to the Royal Mineral Water Hospital, Bath; Hon. Med. Off. to the Royal United Hospital, Bath.

July 4th, 1892.

DEATH UNDER CHLOROFORM.

To the Editors of THE LANCET.

SIRS.—In THE LANCET of May 21st Dr. Colvin Smith records a death under chloroform which affords a striking example of the danger of pulse feeling in chloroform administration. The patient was breathing well, but, owing probably to the pharynx being full of blood, was rather cyanosed. Although cyanosed he was supposed to have fainted. Simply because the pulse could not be felt ether was injected, and "other steps were at once taken to stimulate the heart." It is clear from Dr. Colvin Smith's account of the case that the heart was refusing to convey any more chloroform to the brain at this time—i.e., while the cyanosis lasted. If the patient had only been left alone, and the safeguard action of the vagus had not been frustrated by the injection of ether, the stoppage of the heart would have saved his life.

I am, Sirs, yours obediently,

Hyderabad, June 14th, 1892. EDWARD LAWRIE.

"THE MEDICAL PROFESSION IN PARLIAMENT."

To the Editors of THE LANCET.

SIRS,—*Apropos* of the first leading article in THE LANCET of June 25th I enclose the following extract from Col. Lowry's address to the electors of Trinity College, Dublin:—"Next in point of number are the medical graduates. I have always felt that the medical profession has a special claim upon the representatives of the University; for, unlike the legal profession, very few of its members have seats in the House of Commons. It is within my own knowledge that the dispensary medical officers in Ireland have long had reason to complain of their position in regard to both their duties and their pensions. I shall, if elected, give my special attention to the interests of this large and important body." The lawyers want to make a convenience of the electors by making the University a stepping-stone to the bench. Every University doctor should support the advocates of his own profession, as I do, though I am afraid some of them support the lawyers.

I am, Sirs, yours faithfully,

THOMAS MOORE SUNTER, M.D. T.C.D., M.D. Oxon.

Spring grove, Isleworth, July 4th, 1892.

"STEELE *v.* SAVORY" FUND.

To the Editors of THE LANCET.

SIRS,—We beg to forward herewith a third list of donations and subscriptions to the "Steele *v.* Savory" fund, and in doing so you will permit us to make known through THE LANCET that the Members of the College of the United Services, the Indian Medical Service in particular, have evinced throughout great interest in the justice of the claims put forward by the Association of Members. Surgeon-Lieutenant-Colonel Calthrop, of Mian Mir, Punjab, Bengal Presidency, has issued an appeal and undertaken to receive subscriptions on behalf of the fund and the first instalment was received by the last mail. Surgeon-Lieutenant-Colonel North writes: "I gladly enclose my guinea, and if the sovereign had only cost Rs10, as it should with us, instead of Rs16, I would gladly have sent two, but I shall be happy to contribute further in the righteous cause of the members of the College, and pray communicate my best thanks to the plaintiffs who have been fighting our battle."

We remain, Sirs, faithfully yours,

JABEZ HOGG, } Joint
W. G. DICKINSON. } Hon. Secs.

July 6th, 1892.

THIRD LIST OF SUBSCRIPTIONS.

	£	s.	d.		£	s.	d.
Deputy-Surgeon-General McKellar (to make up his donation to £50)	34	5	0	Foster MacGeagh	1	1	0
Anonymous	5	0	0	T. Craddock Palmer	1	1	0
A. L. H.	3	3	0	E. H. Beaman	1	1	0
Chas. Eaton Baker	2	0	0	Arthur R. Hopper	1	1	0
Maurice E. Ling	1	17	6	T. P. Purvis	1	1	0
Dr. G. H. Batterbury (Hon. Loc. Sec.)	1	10	0	Surgeon-Lieut.-Colonel Calthrop	1	1	0
Dr. Jacob Pickett	1	10	0	Surgeon-Lieut.-Colonel Temple	1	1	0
Andrew Fuller	1	10	0	Surgeon-Lieut.-Colonel J. North	1	1	0
Richard Emmett	1	10	0	Surgeon-Major Harwood	1	1	0
F. A. Gray	1	10	0	G. J. Muriel	1	1	0
G. W. Graham	1	10	0	William Marsden	1	0	0
Chas. Williams, F.R.C.S.	1	1	0	Dr. E. R. Tenison	1	0	0
Rev. R. J. Simpson	1	1	0	Thomas Aspinall	0	10	6
J. M. King	1	1	0	Dr. Clewen Griffith	0	10	6
T. J. Merriman	1	1	0	William Hawkins	0	10	0
Dr. Braithwaite Rogers	1	1	0	Dr. Bucknell	0	10	0
John Prince	1	1	0	Dr. Cox	0	10	0
Alfred Freer	1	1	0				

Donations may be forwarded to the treasurer or paid direct to Dr. Danford Thomas, Park Lodge, Paddington, crossed "Steele *v.* Savory" Fund, the National Bank, Bayswater, W.

MEDICAL DEFENCE UNION, LIMITED.

To the Editors of THE LANCET.

SIRS,—As there appears to exist some misunderstanding as to the position and progress of the Medical Defence Union, Limited, will you allow us to give the following particulars, which will enable the profession to properly judge as to the stability of the Company, its capacity for doing the work of medical defence and for meeting the wants of its members:—

Number of Members.

1888.	1889.	1890.	1891.	1892 to June.
442	834	1446	1828	2366

Amount of Guarantee Fund.

1888.	1889.	1890.	1891.	1892 to June.
£538	£1249	£2173	£2826	£3489

The Executive Council of the Union is composed of an equal number of London and provincial members and the meetings are generally held alternately in London and Birmingham. Members of the Union are drawn from the metropolis in large numbers, as well as from all parts of the United Kingdom. One of the secretaries resides in London, one in the Midlands, and in this way cases of emergency can be dealt with with the utmost promptitude and despatch and personal advice given to members resident in London when required.

We are, Sirs, your obedient servants,

LESLIE PHILLIPS, M.D., } Hon. Secs. Medical
A. G. BATEMAN, M.B., } Defence Union.

July 4th, 1892.

GREAT YARMOUTH HOSPITAL.—The annual report for the past year shows that 332 in-patients and 3857 out-patients were treated during the twelve months. The year's income had more than covered the expenditure, leaving in hand a surplus of £220 19*s*. 11*d*. The invested funds amount to £16,120 6*s*. 7*d*.

THE FRENCH WORKMEN'S SANITARY CONGRESS.

(FROM OUR SPECIAL CORRESPONDENT.)

ON the afternoon of July 3rd the Congress commenced its labours, which during the first meeting were for the most part of a formal character. The credentials of the delegates had to be verified and the various commissioners elected. M. Prudent Dervillier, a member of the Paris Municipal Council, was appointed chairman. In opening the proceedings he explained that the general programme of the Possibilist Party had been debated at the ten preceding National Congresses and was now so well established and understood that the time had come to deal with practical questions instead of abstract theories. It was the duty of the working classes to study earnestly even dry and technical questions, for on their votes depended the solution of these problems. During the present Congress questions relating to the health of the working classes had been selected for debate.

Workmen, it was true, did not possess the technical knowledge required to deal with these problems, but they had appealed to the Professors of the Faculty of Medicine, who had acquired this knowledge. These eminent men of science were separated from the working classes by many material and social considerations, but they were at one with the working class in seeking to elucidate scientific truths independently of all class interests. As Possibilists the organisers of the Congress wanted to profit by the knowledge of these scientific truths, to demand in the name of science, of humanity, of public health, such laws as shall guarantee to the working classes pure unadulterated food and wholesome dwellings. The workers would then have more intellectual and physical strength; they would then be better able to grapple with those great social and economical problems that went to the root of all the evils from which society suffered.

M. A. Lavy, Deputy for Montmartre and general secretary for the Congress, read the correspondence, showing how widely the object of the Congress had been approved. A few reactionary papers had blamed the workmen for abandoning their scarecrow revolutionary policy. They had abandoned none of their aspirations, but wanted to render workmen fitted for a better future by improving the material conditions under which they now lived.

Some discussion ensued as to whether delegates from the Society of Veterinary Surgeons and from the philotechnic associations should be admitted. These delegates had important communications to make in respect to the teaching of hygiene and the control of the supply of meat. It was ultimately decided that as the delegates did not represent labour organisations they would be welcomed as guests and might submit communications, but could not assist as delegates. As instructors and as guests the representatives of all scientific societies were most welcome—as delegates they could not be accepted for they were not labour representatives.

On the second day M. Lavy, Deputy, was elected chairman and announced that the municipality of Rochefort-sur-Mer had voted a subvention to send delegates, and that delegates had arrived from St. Étienne and from Lyons. He had also to welcome Mr. James Holmes of the Leicester Trades Council. In reply Mr. James Holmes explained that the workers of England took great interest in the Congress and would have sent a numerous deputation but for the general elections. If the first necessity was to obtain good wages the second was to be able to lay out those wages advantageously. The Congress by dealing with the question of the adulteration of food would help to solve this latter part of the labour problem. Some discussion arose as to whether the delegates of a society of cooks could be admitted, because two employers of labour were members of that society. This association is called l'Académie de Cuisine, a title which amused and found favour with the Congress, and it was decided that, as the immense majority of the members were workers, they should be allowed to send delegates to represent their "art" in the Congress.

The discussion was now opened on the first question—the food of the working classes. M. Roland, representing labour organisations of the Port de Flandres districts, said they did not believe much would be done to better the quality of the food workers were in the habit of buying. Here and there individual tradesmen would endeavour to act honestly, but the intervention of the State was much preferable to individual effort. The scientific lectures delivered in preparation of the Congress proved that many workers did not earn enough to buy the amount and quality of food necessary to keep them in health. Some suggested total abstinence as a remedy, though it had been shown how often the drinking of water was the cause of typhoid fever. Others proposed vegetarianism, while some employers of labour had gone so far as to suggest that the fasting experiments of Succi might indicate how working-men could live cheaply. Against all these proposals he protested energetically and urged that the real remedy rested in the establishment of a minimum rate of wages based on scientific calculations as to what was necessary to keep workmen in good health. Official science had condemned vegetarianism and total abstinence. But, even if the workmen had sufficient wages to procure meat diet and wine, what was to prevent them from being poisoned by, for instance, the bad alcohols added to the cheap wines? He deeply regretted that the French Chambers had not voted in favour of the proposal to create a State monopoly in alcohol. He thought that the municipalities might open depôts for the necessities of life—meat, bread, &c.—and, as there would be no trade interest to serve in adulterating these articles when they were sold by the elected representatives of the community to the community, there would then be a fair prospect of getting wholesome food.

The delegate of the third arrondissement of Paris complained of the facilities existing for the practice of adulteration. Why was theft of this description so easy? Bread contained 40 to 42 per cent. of water when it should not contain more than 30 to 32 per cent. Then the baker also succeeded by various manœuvres in giving light weight. The workers had no practical means of preventing this daily robbery of their class. Butchers gained 125 per cent. per annum on the capital they engaged in their trade; and competition, the panacea for all evils, according to the teaching of the orthodox economists, had not improved the situation. The number of butchers and bakers was daily increasing, but the prices continue to rise. The real competition wanted was that of municipal butcheries and bakeries who would sell in the interests of the public and not of trade.

Dr. Paul Brousse, Municipal Councillor and representative of the Epinette district, discussed the qualities of the food required so as to maintain the human equilibrium and showed what was proved to be chemically necessary. Money would not always secure this, and even those who could afford luxuries might be underfed or poisoned through the bad quality of what they bought. Pastry might be coloured with copper or arsenic and bread poisoned with the lead coming from the paint adhering to the wood of old houses sometimes used to heat the ovens. Competition had made matters worse. Bakers spent in shop windows and ornamentations to attract customers what they ought to spend in the flour for their bread. People had to pay for the big shops, the flaring gaslights and the big advertisements, and thus did not get their money's worth in food. He agreed with the previous speakers that they wanted the establishment of public services for the necessities of life. But it would not be wise to rest, as it were, hypnotised by this grand conception. Pending the municipalisation of those trades on which public health depended—water, bread, meat, &c.—they must endeavour to obtain stricter laws against adulteration. Alphonse Karr had wittily remarked that if he were to rob his grocer he would certainly be sent to prison, but if he proved that his grocer had robbed him by selling him an adulterated article the grocer would only be fined. If in his indignation he went and killed the grocer he would be arrested, convicted of murder and guillotined, but if he was killed by the grocer selling him an article adulterated with poison the grocer would again escape with a fine. In the Middle Ages, Dr. Brousse urged, adulteration was classed with the coinage of false money, and the culprits were in both instances hanged. Doubtless the municipal analytical laboratory would help to moralise trade, but he suggested that articles of food—such as for instance a cask of wine—should be accompanied by a sort of bill of health, or passport, on which its history should be recorded, so that as it changed hands it might be seen by whom its original quality and character had been altered.

Madame Bertler pleaded for good food for workwomen. It was a deplorable fact that the majority of the workwomen of

Paris were anæmic. How could they give birth to healthy children? Where would France find the soldiers for its future battles? A few workwomen earn enough—they are the exception, and the workwomen who were strong and well fed had such personal charms as enabled them to obtain money from other sources than labour. Even when a workwoman, in consequence of very exceptional taste or skill, could earn enough to buy wholesome food she had not time remaining to cook it properly. Had the underpaid and underfed workwomen of Paris the right to be mothers when they had neither the time to tend their children nor the health to bear them? It was now proposed to enforce rest on Sunday, but this meant no rest for women. Early on Sunday morning the women had to go to the washhouse with the week's dirty linen; then they had to come home and cook and the afternoon was spent in mending the clothes. Sunday was often the hardest day of the week. But there were no two measures in nature—women wanted food and leisure as well as men. She urged that women ought not to compete with men by doing the same work for less wages. A law should be passed making it illegal to employ any woman for less than half a franc per hour. Women might then work three hours in the morning, three hours in the afternoon, gain three francs (or 2*s*. 5*d*.) per day, and yet have some time remaining to attend to domestic duties. This Madame Bertier thought should be the very lowest scale of wages the law should sanction.

A communication from M. Tessignier and coming from the Society of Veterinary Surgeons was then read. M. Tessignier insisted on the quality of meat. This was more important than the quantity. In France the soldier was allowed 300 grammes of meat. This was not enough and yet the workman often did not get as much. Then it was bad meat—not absolutely unwholesome, but flesh of old, tired cattle—meat that loaded and embarrassed the stomach without strengthening the system. The meat might be wholesome when it came from the slaughter-house, but it was often unwholesome by the time it was sold, Horse was sold for beef, dog for mutton; accidents and illness resulted, but attracted no attention unless they occurred on a wide scale. Then measures were taken, but they were only temporary in their effect. Yet the workman's only capital was his health. Such laws as existed for the inspection of meat were aimed against great epidemics rather than against evils that occurred but in detail. Nor did the Legislature define the meaning of the word "corrupt" and the verdicts given were most contradictory and uncertain. What is condemned in one town is allowed in another. Municipal by-laws, though often the result of very serious study, are obscure and incomplete. As the Congress represented the working classes, who were the principal sufferers, it must insist on better and more clearly defined laws. A better watch must be kept over private slaughter-houses. In these small places horse was easily substituted for beef and dog for mutton. In all towns with more than 5000 inhabitants private slaughter-houses should be abolished and a public slaughter-house erected. Then there should be a fully qualified veterinary surgeon attached to each public slaughter-house. At present inspectors of slaughter-houses were appointed in consequence of their political opinions and with no regard to their technical knowledge. Some of the meat which is condemned in Paris is forthwith sent to provincial towns, where the inspection is less severe. It is also very difficult to detect bad meat when the worst parts have been previously and carefully removed. It is therefore necessary that there should be a large staff of thoroughly qualified veterinary inspectors and that the law affecting the control of the meat-supply should be strengthened, more clearly defined and rendered uniform.

The Congress then adjourned, as it was close upon midnight.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Medical School.

THE union of Queen's and Mason Colleges for the purposes of medical teaching is now an accomplished fact and the result is looked forward to with hope and confidence in the future. The gain will undoubtedly be to the students from every point of view, for the amalgamation will produce a solid and substantial basis which must effect strength. At a meeting of the Council, held on the 5th inst., the following three vacancies in the faculty of medicine were filled up: To the Professorship of Medicine, Dr. R. Saundby; to Ophthalmology, Mr. Priestley Smith; and to Dental Surgery and Pathology, Mr. F. E. Huxley. These appointments will give general satisfaction.

Scalding Fatality.

"What dire events from trivial causes spring" is probably no more forcibly exemplified than in the cases of burns and scalds. Oftentimes miners have been known to walk home after being badly burnt and to die very soon afterwards. With children, too, it is well known what a small amount of burning is sufficient to place their lives in great danger. An instance lately happened to illustrate this in the case of a woman on whom some hot water was thrown by another woman. The patient walked to the General Hospital and was detained there. After a few weeks erysipelas set in; the patient is now dead, and her assailant stands charged with manslaughter.

White Cross Society.

A meeting of this Society was held in the Town Hall on June 30th and was well attended; the Bishop of Wakefield occupied the chair. Among the speakers was Dr. Malins. A vigorous effort is being made to extend the influence of this movement in the town. No nobler objects of a social kind could be aimed at than those this Society seeks to enforce—greater purity among men, a chivalrous respect for womanhood, and a higher tone of public opinion. The want of these attributes in society of the present day is an obvious fact to all reflecting persons, and any attempt to remedy such a condition of affairs will be welcomed with all sincerity.

The Society for the Prevention of Cruelty to Children.

This Society is seeking to enlist public support by holding meetings in and around the town, where sympathy in its work and efforts is earnestly solicited. The records of our criminal courts show the prevalence of the evils and dangers attending the growth of the young in our community. With regard to the protection of infants and children there is still abundant room for progress and the efforts made by this Society cannot fail to be productive of good.

July 6th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Hospital Saturday in Bootle.

THE institution of Hospital Saturday has been found to be a most important adjuvant of Hospital Sunday. Many persons are prevented by the nature of their avocations from attending church or chapel, while many probably do not attend though quite able to do so. In Bootle last year an experiment was made of a somewhat original idea. Boxes resembling hospital cots were placed in the streets in conspicuous localities; these realised a sum of £227. This year the experiment has been repeated with even better results, £308 having been received. This happy thought seems worthy of adoption elsewhere.

The Candidature of Dr. B. W. Richardson.

It is much to be regretted that Dr. B. W. Richardson, who would have been such a valuable acquisition to the House of Commons, was not induced to try for some seat which he was more likely to win. His candidature for Walton was from the very first hopeless, but there must be elsewhere in the country seats where his political and other views would be more acceptable, and it is to be hoped that we may yet find his name added to those of the other gentlemen who will represent the medical profession in the new House of Commons.

The Water-supply of Liverpool.

On the 14th inst. the Duke of Connaught and Strathearn will inaugurate a most important event to Liverpool—the opening of the new water-supply from Vyrnwy Lake. At the first census in 1831 the population of Liverpool was considerably less than half of what it is now and local reservoirs sufficed for the water-supply. But for years past these have been wholly inadequate and the residents have been put to most serious inconvenience by the authorities reducing the water-supply to a few hours a day of service sometimes and frequently to half-service. It is very satisfactory and very creditable to the sanitary authorities that it did not lead to an epidemic of typhoid fever. The constant service is on now and we have every reason to hope that it will be continued in future without any break. The formation of the aqueduct for conveying the water a distance of seventy-seven miles from the lake to the heart of Liverpool has been a great engineering feat, comprising the formation of tunnels, reservoirs, and water towers along its course. The carrying of the water under the Mersey was the most formidable part of all, requiring almost superhuman efforts to overcome the difficulties.. The work has been costly, of course, but the money will be well spent in providing the city with an abundant and never-failing supply of good water.

July 6th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Newcastle Royal Infirmary.

A PUBLIC meeting in response to a requisition of citizens was held last week under the presidency of the Mayor to consider the proposal of the house committee to erect new buildings to perpetuate the memory of the late Dr. Bruce, the eminent antiquary and philanthropist of this city. It was stated at the meeting that a new infirmary would probably cost something like £100,000 and that under the existing depressed state of trade it would be hardly wise at present to ask for such a sum. At the same time a new infirmary was an admitted want, and the feeling of the meeting was that a commencement might be made in the way of building a new wing or pavilion to be called the "Bruce wing." This would, it was stated, cost from £5000 to £7000. Dr. Philipson, in seconding the motion for the erection of the proposed Bruce wing, stated that the present building was in parts over 150 years old; and when they reflected on the changes that had taken place in the institution from time to time he thought it would be felt that the time had come when very decided action should be taken with respect to the infirmary if its position and prestige were to be maintained. It was also resolved to erect the new infirmary, if it can be so called, upon the present site, which in the opinion of many is open to serious objections; indeed, our medical officer of health was hardly, I think, satisfied with the existing space. Mr. Alderman Newton, surgeon, raised the question as to the allocation of the students' fees between the teachers and the treasurer of the infirmary, but the point was ruled out of order by the Mayor. It is right to mention, as regards the internal economy of the infirmary, that there is a growing feeling here among the profession that some reforms are necessary in the interests of subscribers, the profession, and indeed of the public. For instance, it is thought that relief is given far too readily to casuals well able to pay, that the honorary medical appointments are too exclusively held in connexion with the medical college and that the said appointments are held for too long a period. There are many other points giving rise to discontent, which, however, may be referred to at another time.

Raby Castle Sanitation.

The *Northern Echo* states that Lord and Lady Barnard, who only lately succeeded to and took possession of Raby Castle, will not resume residence there again for some months, until the sanitation of the castle is thoroughly overhauled. The castle is a very ancient pile; some few years ago its condition was a subject of consideration by the sanitary authority.

The Bequests of the late Dr. G. Y. Heath of Newcastle.

The *Newcastle Journal*, in reference to the munificent bequests of the late Dr. Heath (first announced in these "Notes" a few weeks ago), states that the Royal Kepier Grammar School has been also favoured to the extent of about £5000 to found a medical scholarship from the school to the Newcastle College of Medicine. The Kepier Grammar School at Houghton-le-Spring, near Sunderland, is so named from the fact that in 1574 a Mr. John Heath, in conjunction with the then rector, the celebrated Bernard Gilpin, gave certain tithes which formerly belonged to Kepier Priory near Durham for the foundation and maintenance of the school. It should be stated that the will of the late Dr. Heath, if proved, has not, at all events, yet been made public, so that there may be other educational surprises in store.

Presentations.

Dr. Carlyle, Langholm, has been publicly presented with his portrait (painted by Sir George Reid, President of the Royal Scottish Academy), the occasion being the completion of fifty years' medical practice in the town.—Dr. Smith of Ryton has been presented by his pupils of the ambulance class with a handsome hall clock.—Dr. Wm. Slater of Newcastle has also received a presentation.—Dr. A. D. Macintyre of Consett has been the recipient of a testimonial, subscribed for by the railway servants' ambulance class at Consett and Blackhill.

Newcastle-on-Tyne, July 6th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Complimentary Dinner to Mr. Charles Smith, of Kinnairdy, Banff.

ON July 2nd Mr. Charles Smith, M.R.C.S., was entertained at dinner by his professional brethren in the Palace Hotel, Aberdeen, on the occasion of his celebrating his jubilee as a medical practitioner. Over sixty gentlemen sat down under the chairmanship of Dr. Angus Fraser of Aberdeen. The toast of the evening, "The Health of the Guest," was enthusiastically pledged, and Mr. Smith in reply gave a highly interesting account of medical practice fifty years ago and its gradual development and improvement. A few days previously Mr. Smith was met by the leading inhabitants of the district where he has so long and ably conducted practice and was presented with a very handsome testimonial.

Health of Aberdeen.

The state of health last week was very satisfactory, except for an epidemic of measles at Torry, one of the fisher quarters of the town. Scarlet fever is on the decrease, and diphtheria is represented by two cases, while there are no cases of puerperal or typhus fever.

July 6th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Dublin University Tercentenary.

DUBLIN is very busy this week on account of the celebration of the tercentenary of Trinity College. The first of the festivities was commenced on Monday evening by Dr. Kidd, President of the Royal Academy of Medicine, and Mrs. Kidd giving an "at home" at their residence in Merrion-square. A very large number of guests were present, who spent a very enjoyable evening. Music added to the attractions of the evening, the principal vocalist being Mr. Barton McGuckin.

Royal College of Surgeons.

The Honorary Fellowship of the College will be conferred on the 7th inst. upon the following gentlemen—viz., Thomas Bryant, President of the English College of Surgeons; John Shaw Billings, Surgeon-General, United States Army; Professor Adolphus Gusserow, Berlin; and Hermann Snellen, Rector Magnificus, University of Utrecht. A meeting of the College will be held on July 11th, convened by requisition, to take into consideration the whole question of advertising and to decide, if possible, what is within the limits of professional propriety. His Excellency the Lord-Lieutenant will on Friday, the 8th inst., unveil the memorial bust of the late Dr. Robert McDonnell, the eminent surgeon and physiologist, and former president of the College.

Irish Medical Schools and Graduates' Association.

The annual dinner of the Association was held recently in the Royal Marine Hotel, Kingstown, the chair being occupied by Dr. Mapother, of London, in the absence of the president, Mr. Dick, C.B., Director-General R.N. The chairman, in proposing the toast of the guests, specially alluded to Professor Hashagen and Mr. Bruce Joy, the eminent sculptor. Mr. Bruce Joy, he said, was the son of one of the most popular Fellows of the College of Physicians and the sculptor of the bust of their beloved and lately deceased colleague, the great Robert McDonnell. The chairman, in giving the toast of "The Irish Medical Schools and Graduates' Association," mentioned that the Society could now boast a membership of 700, and concluded by alluding to the grievances of Irish graduates in regard to certain hospital appointments, which were, however, gradually being removed. The toast

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of the chairman (Dr. Mapother) by Sir Charles Cameron terminated the proceedings.

Health of Ireland: March Quarter.

The births registered amounted to 26,978 being 1·2 under the average for the corresponding rate of the ten years 1882-91. The deaths were 30,660, equal to 26·4, and the highest rate recorded for any quarter since registration was established (in 1864), and is 22 per cent. in excess of the average rate for the March quarter of the past ten years. This increase in the mortality principally occurred among persons of advanced ages. The high mortality was due to the prevalence of influenza and pulmonary affections and to the severity of the weather. Measles and whooping-cough were prevalent in the Dublin and Belfast districts, but there was a considerable falling off in the deaths from typhoid fever in the Dublin registration district. It may be mentioned that the Dublin Corporation have agreed to schedule whooping-cough and measles among the list of infectious diseases to be notified.

Report on Dublin Hospitals.

The thirty-fourth annual report of the Board of Superintendence of the Dublin hospitals has been presented to the Governor of Ireland. The Board have visited the hospitals to examine into their condition and to ascertain if proper care were bestowed on ventilation and on the proportion of inmates to space. They report that the nursing organisation is now generally efficient and have suggested that due provision should be made for the nurses' comforts as far as possible and that their food-supply should be carefully attended to. They also express a hope that an institution connected with the hospitals should be endowed and equipped for pathological, chemical and bacteriological research. They state that such an establishment is urgently needed in the interests of medical science, for medico-legal investigations and for the benefit of the community at large.

July 5th, 1892.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Cholerine Epidemic.

SOME weeks ago I had occasion to refer to an outbreak of cholera nostras at Nanterre, a western suburb of Paris. The epidemic has since extended its ravages to adjoining suburbs situated in the west and north-west of the metropolis and a certain number of cases have been met with in Paris itself. From April 5th (the date at which it commenced) to June 25th the epidemic has been fatal in 159 instances. That the number of persons attacked has not been very considerable is apparent from the heavy mortality reported from such centres as Nanterre (44 deaths out of 55 cases) and Argenteuil (13 out of 19). In my previous communication I promised to send you the results of the bacteriological examination of the organs of the Nanterrois who succumbed at the Hôpital Beaujon. These researches, conducted by M. Netter, a very competent authority, are now completed, and it appears that a bacillus discovered in the intestines presented great similarity to the micro-organism of true cholera. Both the Conseil d'Hygiène and the Comité Consultatif d'Hygiène Publique have investigated the matter and these bodies are unanimous in regarding the consumption of Seine water as the efficient factor in the production of the outbreak. They strongly urge the authorities to submit this dangerous stuff—Seine water—to the process of boiling previously to supplying it to those of their customers who are condemned to the ordeal of consuming it. The excessive heat which has lately prevailed has doubtless stimulated the growth and multiplication of the numerous micro-organisms contained in water the periodical distribution of which in Paris si a crying scandal and a reproach to those responsible for the physical well-being of the inhabitants of *la ville lumière*. Meanwhile I think I am justified in stating that the outbreak in question is *not* cholera morbus, and that intending visitors to this gay centre of pleasure need be under no apprehension of contracting the severe form of diarrhœa which is always more or less in our midst at this time of year, provided they refrain from drinking unboiled and unfiltered Seine water.

Recrudescence of Typhoid Fever in Paris.

L'eau de Seine and enteric fever are old and staunch allies, and the turning-on of the water is equivalent to the turning-on of the disease the existence of which is a disgrace to a Haussmannised city like Paris. Is it to be wondered at then that cases of typhoid fever should be beginning to pour into the hospitals in increasing numbers? Dr. Monod reports to the Comité Consultatif d'Hygiène Publique that the number of persons with this disease admitted into the Paris hospitals from June 24th to June 30th was ninety-five. On the morning of June 24th there were under treatment in the wards of our hospitals 185 typhoid fever patients; on the evening of the 30th ult. these figures had increased to 235. If these poor sufferers were under treatment for wounds inflicted by roughs in the streets loud demands would soon be forthcoming for the repression of such lawlessness. But when death and disease are distributed through the medium of pipes amongst our population the dire results are accepted as a matter of course and no outcry is emitted by the public against such a scandalous *régime*. The patient long suffering of the Paris public is simply beyond British comprehension.

Inter-University Courtesies.

At the usual monthly meeting, held last week at the Sorbonne, of the General Council of the Paris Faculties it was decided to present a congratulatory address to the University of Dublin on the occasion of the tercentenary festivities which are being held this week in the Irish capital. Our distinguished *confrère*, Professor Lannelongue, was delegated to speak at the banquet in the name of the Paris University. Professor Lannelongue's visit to Dublin will doubtless have the effect of further interesting the hospital surgeons of that city in his sclerogenic method of dealing with tuberculous lesions.

An Anti-Cancer League.

In March last Professor Verneuil suggested to his colleague Professor Duplay the idea of forming an association the *raison d'être* of which should be the elucidation of the real nature of carcinoma. The idea has now been acted upon, and a committee has been appointed to further the development of this deserving enterprise. The committee includes such well-known workers as Duplay, Trasbot (of the Veterinary School of Alfort), Metchnikoff (of the Pasteur Institute), Reclus, Ricard and Brault, with M. Masson (the publisher) as treasurer. These gentlemen have just issued an address to the public exposing therein the objects of the League and asking for subscriptions in aid of researches. An appeal for collaboration is made to pathologists, clinicians, histologists, microbiologists, veterinary practitioners and even geographical explorers. Congresses will be periodically held in order to discuss the progress made in bringing to light any information concerning cancer, a journal will be published as the organ of the League, and, when funds permit, prizes will be offered for any discovery bearing on the subject. I can only wish the enterprise success in its arduous mission.

Paris, July 6th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Twentieth Congress of German Medical Men.

THE twentieth Congress of German medical men met at Leipzig on the 27th ult. It was attended by 104 delegates, representing 149 societies. Dr. Graf of Elberfeld presided. Dr. Busch of Krefeld reported the proposals of the business committee regarding the relation of medical men to trades unions. At the second meeting of the Congress Dr. Branser of Ratisbon reported on the relation of medical men to the offices for the insurance of the aged and infirm. The well-known Berlin gynæcologist, Dr. Martin, proposed that the business committee of the associated societies of medical men should be instructed to describe the circumstances of the medical profession without reserve in the papers every year at the time when the pupils of high schools are examined for the certificate which admits them to the universities, and urgently to warn all those who have no special aptitude for study, particularly those who look to medicine as a means of earning a livelihood. This proposal was rejected by a majority of one, and the declaration that, considering the difficult circumstances of the medical profession, the increase of the number of medical men is out of all proportion to the increase of the population, was adopted in its stead.

Cholera.

The Government organ, the *North German Gazette*, writes:

"In order to prevent misunderstandings or alarming conclusions, to which the news of measures to ward off cholera may lead, it may be stated that there is no reason for uneasiness either for the present or for the future so far as it can be foreseen, because our frontiers are separated by vast spaces from the region where cholera is now raging, and the pestilence has not shown the slightest tendency to spread in the direction of central Europe. Moreover, the sanitary measures in question are of old date and so arranged and prepared for that they can be completely enforced the moment they become necessary. The danger of an unobserved introduction and spread of the pestilential germ on German soil therefore seems absolutely excluded."

Dr. Snell.

The eminent alienist, Dr. Snell, director of the Hildesheim Asylum, near Hanover, died on the 12th ult., aged seventy-four. He was the first in Germany to use agriculture as an element in the treatment of insanity. He is succeeded by his assistant, Dr. Gerstenberg.

Professor Anton Biermer.

Professor Biermer, till lately director of the Medical Clinic in Berlin, died the other day at Schöneberg, near Berlin. He wrote on sputum, leucocythæmia, the anatomy of bronchiectasis, pneumothorax, the diseases of the bronchi and of the parenchyma of the lungs, asthma bronchiale, typhus abdominalis, the causes of epidemics, especially cholera, metallic tinkling &c. He taught at Würzburg, Berne, Zurich and Breslau. His successor in Breslau is Professor Kast, formerly of Hamburg.

Ozone and Influenza.

At the general assembly of the German Meteorological Society, which met at Brunswick last month, Dr. Eydam of that city communicated that he had measured the ozone of the air during the last twelve years, latterly in and near Brunswick. He had found that at the time of the recent influenza epidemics the amount of ozone in the air was extremely small, hardly 10 per cent. of the normal amount.

Miscellaneous News.

The number of medical students in Berlin University this half year is 1448.

Professor Schaer of Zurich has been called to succeed Professor Flückiger in the chair of Pharmaceutics in Strasburg.

Dr. Fritz Moritz has been promoted to the rank of professor and appointed director of the medical consulting clinic of Munich University.

Professor Fischer of Würzburg has accepted a call to Berlin.

Dr. August Haupt has published a book entitled "Soden am Taunus" (Soden at the Foot of the Taunus Mountains), giving full information about the climate and the waters of that beautiful watering-place.

The Royal Medical Academy of Belgium has elected Professor Du Bois-Reymond of Berlin a corresponding member.

The Society of Prussian Medical Officials will hold its general assembly in the Langenbeck House here on September 5th and 6th.

A committee of scientific men of all nations, including Du Bois-Reymond, Helmholtz, Waldeyer, Häckel and Billroth, has published an appeal for contributions to a monument of Ernst von Brücke in Vienna. Contributions may be sent to Professor Exner, 17, Schwarzspanier Strasse, Vienna, till the end of this month.

The magistrates of Berlin have ordered that all articles sent for disinfection to the municipal establishment for that purpose must be packed in strong chests lined inside with sheet-metal.

Berlin, July 5th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Visit of the Khedive to the Government Hospital.

ON May 19th the young Khedive paid his first visit to Kasr-el-Aini Hospital, devoting an hour and a half to careful and intelligent inspection. He talked with some of the patients in Arabic, explained some new inventions to his aides-de-camp in Turkish and conversed freely with members of the hospital staff in English, French and German. He was much interested in certain operation cases, such as tracheotomy and gastrostomy, in the arrangements for disinfecting and washing the private clothes of patients, in an excellent machine for sterilising milk, in a German bandage cutter and roller, which allows 5000 bandages to be made daily by one man for the provincial hospitals, and in the new bacteriological laboratory just opened under Dr. Kaufmann's care. His Highness was also interested in seeing cultures of cholera, diphtheria, &c., and in hearing of experiments on rabbits to secure immunity from tetanus. He has since spoken in the highest terms of appreciation of the work done by the English there.

Cairo Drainage Scheme.

It may be remembered that in 1889 the Egyptian Government considered its finances sufficiently satisfactory to be able to entertain the cost of draining the capital, thus doing away with some of the existing cesspools and endeavouring to reduce the rate of mortality among the natives. Accordingly Mr. Baldwin Latham was invited to visit Cairo, and he prepared here a carefully worked out scheme. But Egypt has no power to spend her own money upon any new work without the unanimous consent of six Powers, and France at once, though standing alone, refused the necessary permission. After many ineffectual attempts to overcome this difficulty, France eventually agreed that Cairo might spend half the octroi tax of the city, provided that a Commission appointed by England, France, and Germany should unanimously decide upon a good scheme. The French further insisted that if the three engineers were not unanimous a Belgian arbitrator should be appointed. In February last the international trio met in Cairo. They were Mr. Law, chiefly known for engineering works in Brazil; Herr Hobrecht, the designer, constructor and chief engineer of the Berlin sewers; and M. Guérard, the engineer of the Port of Marseilles. Thirty plans already in existence were laid before the Commission and all were judged incomplete or inapplicable to Cairo; but three were praised above the others and therefore the Government prize of £300 has been divided among them. One of the successful competitors is Mr. John Price, sanitary engineer to the Government, and he has also been given the grade of Bey. The Commission then elaborated their own scheme, which they calculate should not cost more than £500,000. But as they did not attempt to enter into any details it will require some months' hard work to determine whether this estimate is a correct one. The Commission recommend, as was anticipated, the system *tout à l'égout* and the formation of a large sewage farm in the desert to the north-east of the town. They propose to divide the city into four great zones, through each of which should flow a main sewer to receive by gravitation the sewage of the zone. These four sewers are all to end in one station, about half a mile to the north of Cairo. Hence the sewage should be pumped to a certain height, from which it should be forced as rapidly as possible through a succession of cast-iron pipes till it reaches the desert land to be irrigated. They particularly insist that the flow through these pipes is to go on continuously by day and night, without disinfection or contact with air. They also veto the manufacture of poudrette, into which the cesspool contents are at present converted in a secluded spot in the desert. They rather cleverly propose to utilise the Khalig by building one of the main sewers under its bed. This Khalig is an open drain running through some of the most crowded parts of the city; it is much older than the Mussulman religion and has nothing to do with it, but unfortunately the religious devotees here are of a contrary opinion and resent any attempt to close it. The commissioners finish their report by noticing the faulty position of the intake of the water-supply from the Nile, and by decreeing that houses unfurnished with proper water distribution shall not be permitted to be in connexion with the new sewers. They recommend further that public latrines shall be provided in greater number, that the mosques and native drinking fountains shall be improved, the levelling and metalling of streets in the native quarters and the opening out as far as possible of new streets to act as ventilating shafts for the crowded districts. Mr. Latham's hydraulic scheme was rejected by the Commission on the grounds of its cost (£500,000) and of its requiring complicated machinery at twelve stations in the town itself, where the sewage must be collected and distributed. Here it may be remarked that Mr. Latham's scheme was to carry away 15,000,000 gallons of sewage per day, while that of the Commission is to remove eight times as much; it must therefore be that the former scheme was very expensive or that the new one is extraordinarily cheap. The Commission arrive at their high figures by calculating a sewage flow of 0·4 litre per second per hectare, while for rainfall they allow 3·4 litres; that is, their daily allowance is for nearly nine times more rain than sewage, yet they distinctly point out that the annual average rainfall of Cairo during the last ten years is an inch and a quarter. It is suggested that they have proposed to design their sewers in consequence of one tropical shower of rain, with hail and thunder, which fell during seventy minutes last December. This is as bad as one of the competitors for the Government drainage prize, who assumed that we had a tropical rainfall to provide for. Then, again, the Commission find that Cairo consists at present of an area of 1630 hectares, and they elect to calculate that there are 400 people to each hectare. This gives us a density of population 63 per cent. over and above the 374,000 we now have. There are some arithmetical errors in the report which may have been caused by linguistic difficulties. But we must be grateful to the Commission, for without them Cairo would still have to wait for its preliminary plans, for which the Public Works Department has now been granted a credit of £2000. Deducting the cubic cesspool contents which are removed from the better houses in Cairo, there still remain some 100,000 cubic metres of sewage every year which soak away into the subsoil water. On the other hand, out of some 56,000 houses in Cairo there are only 4300 which receive good water from the water company; the remainder are dependent on wells and on water-carriers, who bring the water from wherever they think fit. There are thus some thousands of native houses in Cairo which either have no water at all or are dependent entirely on wells dangerously contaminated by sewage. It is to be hoped that Fiend Cholera is not aware of these facts. The natives seem to enjoy an extraordinary immunity from enteric fever, but their great mortality is largely dependent upon other filth-producing diseases, such as diarrhœa, dysentery, diphtheria, bilharzia and lung diseases. The English inhabitants of Cairo, who take a little trouble about their drinking-water and sewage removal, live as healthily as in London.

Cairo, June 21st, 1892.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE ELECTION TO THE COUNCIL.

THE fourth election of Fellows to fill vacancies on the Council of the College, under the new regulations, voting by means of proxy papers being now permitted, was held in the Library of the College on the afternoon of Thursday, the 7th inst., from two to four o'clock and resulted as follows:—

THOMAS SMITH	285	(including	2	plumpers).
JOHN TWEEDY	237	,,	21	,,
ARTHUR EDWARD DURHAM	203	,,	8	,,
F. HOWARD MARSH	200	,,	0	,,
Henry Morris	188	,,	8	,,
Jeremiah Macarthy	106	,,	9	,,
William Anderson	90	,,	1	,,
Alexander Oberlin MacKellar	86	,,	3	,,
J. Warrington Haward	77	,,	18	,,
George Cowell	75	,,	4	,,

Mr. Thomas Smith and Mr. Durham were therefore declared to be duly re-elected, and Mr. Tweedy and Mr. Howard Marsh to be elected, members of the Council. More interest was taken in the election than was the case last year, for 149 Fellows attended and voted in person: more were also present at the announcement by the President of the result of the poll. With regard to the use of proxy papers, it appears that 437 were applied for, but only 367 were returned; last year 322 valid proxy papers were sent in and 119 personal votes were recorded.

Mr. H. B. Robinson and Mr. E. C. Stabb acted as scrutineers of the ballot.

IMPROVEMENTS AT THE COLLEGE.

Those of our readers who visited the College on Thursday and went into the museum must have been much impressed with the important improvements effected by the addition of the new rooms. Proceeding through the doorway on the right after entering the College, the visitor sees the entrance of the new large museum across the old hall, now much enlarged by the removal of the room formerly used by the conservator of the museum. This new large museum is a very spacious room, lighted from above and at the north end, and well designed for the exhibition of specimens. The ground floor is chiefly devoted to the use of those wishing to study human anatomy, and arranged on tables of special design are the numerous preparations so well known for their excellence (the work of Mr. Pearson), which formerly occupied the ground floor of the western museum. The tables are so arranged that shelves can be drawn out on which the student may place his book so as to be opposite the specimen which he wishes to "read up", and seats are provided. Around the room in glass cases are arranged osteological preparations and part of the large collection of crania in the possession of the College. There are two galleries in this museum, both of which are to be occupied by pathological specimens as they are added. At present there are many important preparations—the overflow of the older rooms. The arrangement when fully carried out will be very satisfactory, for, after entering the first gallery in the old western museum, the preparations can be most usefully studied in a definite order from the left, the series being so arranged that the student passes from group to group in their order and, returning into the old museum, ends the tour of the galleries on this floor at the old entrance. He can then ascend and follow a series in continuation of the other, arranged in a similar manner in the two galleries above. The anthropological series on the ground floor of the larger of the new museums is continued in the glass cases on the ground floor of the smaller and in the wall cases on one side of the western museum. The middle gallery of the small museum is occupied by teratological preparations and the top gallery by the illustrations, by means of photographs and water-colours, of various diseases. The series of invertebrata have been placed in six table cases in the western museum, the four following table cases next in order being used for the specimens illustrating the development of the human skeleton. The cases in which the series of invertebrata have been placed have been relieved and painted in chocolate—a matter which is worthy of mention, as this colour makes the preparations show much more clearly and is less trying to the eyes, and indicates what is evident throughout, that the furnishing of the museums and arrangement of specimens have been carried out under skilled and practical supervision.

Medical News.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS IN IRELAND: CONJOINT SCHEME.—The following candidates have passed the First Professional Examination:—

J. C. Baskin, J. W. Benson, W. J. Beveridge, G. E. Caithness, D. F. Clarke, H. F. Conyngham, G. Corcoran, W. M. Cummins, G. G. Delap, J. C. Edge, E. A. Fenton, T. Fitzgerald, R. Glynn, R. M. Hamilton, P. P. Harold-Barry, W. J. Healey, C. E. Hodgson, C. R. Horrell, W. E. Jolliffe, W. M. Jones, C. A. Kenny, C. D. Martin, H. B. S. Montgomery, J. Morrissey, J. A. McMunn, M. O'Brien, W. H. Odlum, J. J. O'Reilly, T. J. Perkins, T. J. Potter, F. J. Purcell, A. S. Sampey, R. W. Scully, J. N. Shee, E. W. Siberry, Miss L. F. Strangman, Miss M. S. Strangman, R. H. Walpole, F. C. Wright, and A. H. O. Young.

THE COATBRIDGE MEDICAL FEES CASE.—On the 1st inst. Sheriff Berry issued an interlocutor reversing the decision of Sheriff-Substitute Mair in the case of Dr. Macphail *v.* the Coatbridge Town Council. The local Police Act constituting Coatbridge into a burgh contains a clause compelling doctors to report all contagious diseases and providing for their being paid 2*s.* 6*d.* for each report. A dispute arose between the medical man and the Council as to whether measles and whooping-cough were included; and the Council eventually adopted the Infectious Diseases Notification Act. The medical men maintain, however, that under the local Act they were bound to report and the Council to pay for the reports of these two diseases. Sheriff Mair gave effect to this contention and the Council appealed to Sheriff Berry, who finds that the defenders, the Local Authority of Coatbridge, having adopted the Infectious Diseases (Notification) Act, 1889, and not having taken steps to apply the Act to measles and whooping-cough, are not now liable to pay to the pursuer fees for cases of these diseases reported by him

NEW INFIRMARY, LEWISHAM.—The Bishop of Lichfield performed the ceremony on Saturday of laying the foundation stone of a new infirmary, to be erected by the Lewisham guardians, at an estimated outlay of £60,000.

SUPERANNUATION ALLOWANCE. — Mr. George Cheesman, L.R.C.P. Edin., M.R.C.S., lately district medical officer of the Southampton Incorporation, has been granted a superannuation allowance of £132 19*s.* 8*d.* per annum.

GUY'S HOSPITAL MEDICAL SCHOOL.—The Right Rev. Randall T. Davidson, D.D., Lord Bishop of Rochester, distributed the medals and prizes at Guy's Hospital Medical School on Wednesday last, July 6th. The dean of the school read the report for the past year and a vote of thanks to the Lord Bishop was moved by the treasurer and supported by the senior physician and senior surgeon.

MEDICAL MAGISTRATES.—The names of the following gentlemen have been placed on the Commission of the Peace—namely, John Parsons, L.R.C.P., F.R.C.S. Edin., L.F.P.S. Glasg., and George Stringer Pullon, M.D., C.M. Edin., for the Borough of Barnsley, James Thomson William Baird, M.B., C.M. Edin., and Hugh Moss, M.D. St. And., M.R.C.S., for the Borough of Congleton, and James Aitken Myrtle, M.D., C.M. Edin., for the Borough of Harrogate.—John E. Jones, M.D. St. Andrews, M.R.C.S. &c., of Brynyffynon, Dolgelly, having, on the recommendation of W. R. M. Wynne, Esq., the Lord-Lieutenant, been placed on the Commission of the Peace for the county of Merioneth, made the usual declaration and subscribed the necessary oaths and qualified as a magistrate for the county at the Trinity quarter sessions held at Dolgelly on June 28th.

THE SANITARY INSTITUTE.—The forthcoming annual congress of this institute will be held at Portsmouth, commencing on Monday, Sept. 12th, and continuing throughout the week. The inaugural address of the president and the sectional and general meetings will be held at the Town Hall, but the Health Exhibition will take place in the new drill hall and include sanitary apparatus and appliances in connexion with the congress. The Duke of Connaught and Strathearn has consented to become the patron.

PRESENTATIONS.—Dr. Grant of Ellon has been presented by the St. Andrew's Ambulance Classes, Ellon, with a handsome microscope and case.—Mr. Charles Smith, M.R.C.S., of Kinnairdy, Marnoch, has been presented by his friends, on the occasion of his professional jubilee, with an illuminated address and a purse of 292 sovereigns.—Mr. Richard T. Williams, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glas., who for several years past was assistant to Mr. J. R. James of Cwm Avon, having left that town, has been presented by his friends and well-wishers at Cwm Avon with a well-executed illuminated address and a costly box of surgical instruments.

SCHOOLS OF SURGERY: ROYAL COLLEGE OF SURGEONS, IRELAND.—The following prizes have been awarded for the summer session:—Operative Surgery: G. Hamilton, gold medal; O. W. Elsner and T. C. Perry, equal, silver medals. Practical Chemistry: H. E. Eardley, £3 and medal; H. F. Conyngham, £1. Practical Histology: E. A. Meeke, £3 and medal; E. C. Hodgson, £1 and certificate. Materia Medica: E. T. Moore, £3 and medal; E. A. Meeke, £1 and certificate. Pharmacy: R. M. Hamilton, £3 and medal; H. B. Montgomery, £1 and certificate. Medical Jurisprudence: T. T. O'Donnell, £3 and medal; L. F. Corbet, £1 and certificate.

INTERNATIONAL CONGRESS OF PHYSIOLOGISTS.—The second International Congress of Physiologists will be held at Liège (Belgium) from the 29th to the 31st of August. An exhibition of physiological apparatus will be arranged. Those taking part in the Congress, the directors of physiological laboratories and makers of instruments, recommended by members of the Congress, will be at liberty to exhibit. The exhibition will be opened two days before the Commencement of the Congress and be closed two days after its conclusion. Professor Fredericq, director of the Physiological Institute of the University of Liège, has kindly offered to place his institute at the service of members desiring to give demonstrations, or to show scientific apparatus. Those intending to be present at the second congress should communicate with Professor Léon Fredericq, Liège or to Mr. C. S. Sherrington, St. Thomas's Hospital, London, before the 1st of August.

THE DENTAL HOSPITAL OF LONDON.—The medical staff and Lecturers of this institution have issued cards of invitation to a conversazione, which is to take place on Wednesday, July 13th, at 8 P.M., at the Royal Institute Galleries, Princes Hall, Piccadilly. At 8.30 P.M. there will be a prize distribution by Professor St. George Mivart, F.R.S.

THE METROPOLITAN HOSPITAL.—Lord Sandhurst presided at the recent annual dinner in aid of the funds of the above hospital. He defended the conjunction of a provident dispensary and a general hospital, and assured the public that unless they subscribed more liberally to hospitals they would need to apply to the State or to local funds for support.

NEW COTTAGE HOSPITAL, HORSHAM. — On Saturday the deeds of this hospital were delivered to the trustees and the building declared opened. It is well situated in the Hurst-road, provides eight beds in three wards, besides three each in the special male and female wards, and has been erected at an outlay of upwards of £1700, the whole of which is covered by subscriptions received and about £200 in annual subscriptions are promised towards its maintenance.

THE LORD MAYOR AND THE WELSH EISTEDDFOD. The Lord Mayor of London visited Bridgend on Monday to open the annual Eisteddfod in aid of the Local Cottage Hospital. His Lordship was received by the Eisteddfod Committee and the members of the Local Board at the railway station and presented with an address of welcome; he was afterwards escorted to the Eisteddfod Pavilion by an imposing procession, where he declared the Eisteddfod opened.

METROPOLITAN ASYLUMS BOARD.

Return of Patients remaining in the several Fever Hospitals of the Board at Midnight on July 5th, 1892.

Hospital.	Beds occupied.						Total accommodation.
	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other diseases	Total	
Eastern Hospital	360	78	2	26	—	466	[illegible]
North-Western Hospital	317	73	—	5	..	395	411
Western "	174	22	—	10	4	210	[illegible]
South-Western "	229	45	..	4	..	278	[illegible]
South-Eastern "	345	14	1	11	..	371	[illegible]
Northern "	704	20	..	..	..	724	[illegible]
Gore Farm "	79	..	..	..	..	79	110
Totals	2203	252	3	56	4	2523	[illegible]

SMALL-POX.—*Atlas* hospital ship, 40.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ALLDEN, J. H., M.R.C.S., has been reappointed Medical Officer of Health for Shirley.

BOLUS, H. B., M.B., B.C. Cantab., has been appointed Resident Obstetrician to Guy's Hospital.

COLLINS, RICHARD HAWTREY, M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Surgeon to the Poplar Hospital for Accidents, vice Williams, resigned.

COUNSELLOR, CHARLES EYRE, M.D., L.S.A. Lond., has been appointed Physician to the Esmeralda County Hospital, State of Nevada, U.S.A.

DOIDGE, M. J., B.A. Cantab., M.R.C.S., has been appointed Medical Officer for the Fourth District of the Risbridge Union, vice B. L. Tandy, resigned.

DONALD, H. C., M.B., C.M. Glasg., has been appointed Parochial Medical Officer, Paisley Burgh.

EVERS, C. J., M.B. Durh., M.R.C.S., has been appointed Medical Officer of Health to the Port and Borough of Faversham.

FLOWER, F. J., M.R.C.S., has been reappointed Medical Officer of Health for Warminster.

GAYLOR, E., L.R.C.P. Edin., L.F.P.S. Glasg., has been reappointed Medical Officer of Health to the Ripley Local Board.

GRANT, F., L.R.C.P. Edin., M.R.C.S., has been reappointed Medical Officer of Health to the Market Harborough Local Board.

RWOOD, C., M.D. Edin., L.R.C.S. Edin., has been reappointed Medical Officer of Health for the Shardlow Rural Sanitary District.

AYES, H. W. McC., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Third Sanitary District of the Highworth and Swindon Union.

EMMING, C. P., M.R.C.S., has been appointed Medical Officer for the Bishop's Waltham Sanitary District of the Droxford Union.

ACKSON, M., M.D. Irel., M.R.C.S., has been reappointed Medical Officer of Health for the Barnstaple Rural Sanitary District.

AMES, W. E., L.R.C.P. Lond., M.R.C.S., has been appointed, *pro tem.*, Medical Officer of Health for the Abercarn Local Board.

ONES, G. M., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Second Sanitary District of the Alton Union.

LANDON, E. E. B., M.R.C.S., L.R.C.P., has been appointed Resident Obstetrician to Guy's Hospital.

LOCKWOOD, C. B., F.R.C.S., has been appointed Assistant Surgeon to St. Bartholomew's Hospital.

LOWNDS, H. A., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer to the Doncaster Board of Guardians, vice Fairbank.

MACKINTOSH, D. J., M.B., C.M. Glasg., has been appointed Superintendent of the Western Infirmary, Glasgow, vice Russell, resigned.

McCULLOCH, A., M.B., C.M. Glasg., has been appointed Medical Officer for the Tarporley Sanitary District of the Tarvin Union.

PALMER, H. L., M.R.C.S., has been appointed Medical Officer of Health for the Kerry Sanitary District of the Newtown Rural Sanitary Authority.

PASSMORE, W. E., L.S.A., has been appointed Assistant Medical Officer of the Infirmary, Wandsworth and Clapham Union.

RADFORD, WILLIAM J., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Surgeon to the Poplar Hospital for Accidents.

ROBERTS, ERNEST T., M.D., C.M. Edin., has been ;appointed Certifying Factory Surgeon for the Keighley District, and Medical Officer to the Keighley Post-office, vice Arthur Roberts, M.D., D.P.H., resigned.

CHEL, G., M.R.C.S., L.R.C.P., has been appointed Resident Obstetrician to Guy's Hospital.

RENT, W. S., L.K.Q C.P., L.R.C.S. Irel., has been appointed Medical Officer for the Hovingham Sanitary District of the Malton Union, vice Watt.

TONHAM, H. A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Stepney Union.

AYLOR, HERBERT EDWARD, B.A., M.D., B.Ch., B.A.O. Univ. Dub., has been appointed Medical Officer and Public Vaccinator for the Second District of the Malling Union, vice Dr. Muirhead.

TAYLOR, S. T., M.B. Lond., L.R.C.P., M.R.C.S., has been reappointed Medical Officer of Health to the Cromer Local Board.

WAIT, J. ALFRED, B.A., M.B., B.C. Camb., has been appointed Junior House Surgeon to the Clayton Hospital, Wakefield.

WARD, GEO. S., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer for the Fifth Sanitary District of the Hertford Union.

WILDING, W. F. W., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health to the Hindley Urban Sanitary District.

WILLIAMS, ERNEST G. H., L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer at Jamaica (Colonial Service).

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

BOROUGH HOSPITAL, Birkenhead.—Junior House Surgeon. Salary £60 per annum, with board and lodging, but no wine, spirits, or beer. A further sum of from £20 to £25 per annum is usually obtained in fees.

CHURCH OF SCOTLAND (JEWISH MISSION).—Medical Missionary, for the Mission and Hospital at Smyrna. Salary £300, or £250 with dwelling-house. (Apply to J. A. Frail, Esq., W.S., 17, Duke-street, Edinburgh.)

EAST LONDON HOSPITAL FOR CHILDREN, Glamis-road, Shadwell, E.—House Physician. Board and lodging provided.

EAST LONDON HOSPITAL FOR CHILDREN, Glamis-road, Shadwell, E.—House Surgeon. Board and lodging provided.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark-bridge-road, S.E.—Junior Resident Medical Officer. Salary £50.

FULHAM UNION.—Assistant Medical Superintendent of the Infirmary. Salary £100 per annum, increasing £10 yearly to a maximum of £130, with board, furnished apartments, attendance and washing.

JOINT COUNTIES ASYLUM, Abergavenny.—Junior Assistant Medical Officer. Salary (a progressive one) commences at £100 a year, with apartments, board and attendance.

LIVERPOOL NORTHERN HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with residence and maintenance in the house.

LONDON COUNTY ASYLUM, Hanwell, W.—A Fifth Assistant Medical Officer. Salary £120 per annum, rising £5 a year to £150, with board, furnished apartments and washing.

LUTON FRIENDLY SOCIETIES' MEDICAL INSTITUTE.—Assistant Medical Officer. Salary £150 per annum, out-doors. (Apply to Mr. T. Keens, 12, Grove-road, Luton, Beds.)

McGILL UNIVERSITY, Montreal, Canada.—Professorship of Pathology for the Faculties of Medicine and Comparative Medicine for one year. Salary for provisional appointment for one year £400 sterling. (Apply to the Dean, Montreal, Canada.)

PARISHES OF WESTRAY AND PAPA WESTRAY, Orkney.—Medical Officer and Public Vaccinator. Salary as Medical Officer £70 sterling per annum.

PAROCHIAL BOARD OF PENNYGOWN AND TOROSAY, N.B.—Medical Officer. Salary from Board £100, cost of paupers' medicines included. (Apply to the Inspector of Poor of Torosay, Auchnacraig, by Oban.)

PONTYBERAN AND PENTREMAWR WORKMEN AND THE NEIGHBOURHOOD.—Qualified Medical Man. (Apply to Mr. Jones, Cook's Bridge, Pontyberan, near Llanelly, South Wales.)

QUEEN'S HOSPITAL, Birmingham.—Physician for Out-patients and Pathologist to the Institution for three years. Annual honorarium £75.

READING AMALGAMATED FRIENDLY SOCIETIES' MEDICAL ASSOCIATION.—Senior Medical Officer. Salary £200 per annum and all Midwifery and Vaccination fees, with a good house and garden free and a conveyance supplied. (Apply to Mr. Griffin, 82, Southampton-street.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Two Examiners.

ROYAL UNITED HOSPITAL, Bath.—House Surgeon. Salary £60 per annum, with board, lodging, and washing.

SHEFFIELD GENERAL INFIRMARY.—Assistant House Surgeon for three years. Salary £80 per annum, with board, lodging, and washing.

STAINES UNION RURAL SANITARY AUTHORITY.—Medical Officer of Health. Salary £75 per annum.

ST. LUKE'S HOSPITAL.—Resident Clinical Assistant for six months, with board and residence.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, W.—Resident Medical Officer. Salary £105 per annum, with furnished apartments, attendance, coal and gas.

UNIVERSITY COLLEGE, London.—Assistant Ophthalmic Surgeon.

WESTERN DISTRICT OF THE COUNTY OF LONDON.—Coroner. Salary for the ensuing five years £780 a year. (Apply to the Clerk of the Council, Spring-gardens, S.W.)

WIRRAL CHILDREN'S HOSPITAL, Wood-church-road, Birkenhead.—Resident House Surgeon. Salary £50 per annum, with board, lodging on the premises, and washing.

WOLVERHAMPTON EYE INFIRMARY.—House Surgeon. Salary £60 per annum, with rooms, board, and washing.

WONFORD HOUSE HOSPITAL FOR THE INSANE, near Exeter.—Assistant Medical Officer. Salary £150 per annum, with board, furnished apartments, and washing.

WORCESTER AMALGAMATED FRIENDLY SOCIETIES' MEDICAL ASSOCIATION, Worcester.—Assistant Medical Officer. Salary (without residence) £140 per annum, with part of Midwifery fees; also £20 per year for cab hire.

Births, Marriages, and Deaths.

BIRTHS.

ADAMS.—On June 26th, at Aldersgate-street, E.C., the wife of John Adams, F.R.C.S., of a daughter.

BINNIE.—On June 30th, at Meadowfield House, Brandon, Co. Durham, the wife of R. M. G. Binnie, M.D., C.M., of a daughter.

CLARKE.—On July 4th, at Blackheath, the wife of Ernest Clarke, M.D., of a daughter.

DODS.—On July 4th, at High-street, Fenny Stratford, the wife of Louis F. Dods, Surgeon, of a daughter.

FERRIS.—On July 1st, at Hurstlea, Uxbridge, the wife of John Spencer Ferris, M.B. Lond., of a son.

MARRIAGES.

ADAMS—MIDDLEMASS.—On June 29th, at St. Augustine's, Queen's-gate, William Coode Adams, M.B., eldest son of the late Dr. Adams, of North London, to Blanche, second daughter of the late William Middlemass, J.P., of March Mount, Cheltenham.

LUND—BALLANTINE.—On June 30th, at St. Andrew's Presbyterian Church, Bournemouth, Herbert Lund, F.R.C.S., of St. John-street, Manchester, to Mary Crockatt, eldest daughter of the late Thomas Ballantine, Esq., of Greenock.

MORISON—MUSHET.—On June 29th, at Dalkeith, by the Rev. Neil M'Lachlan, M.A., James Rutherford Morison, F.R.C.S.Eng. & Ed., of 14, Saville-row, Newcastle-on-Tyne, to Louie, youngest daughter of the late W. Mushet, of Fairfield House, Dalkeith, N.B. No cards.

PARKER—LÜLING.—On June 30th, at St. Mary Abbott's, Robt. William Parker, M.R.C.S., of Welbeck-street, Cavendish-square, W., to Marie, second daughter of the late Charles Lüling, of New York.

SALZMANN—THORNTON.—On July 5th, at St. Mary Abbot, Kensington, Frederick William Salzmann, M.R.C.S., of Brighton, to Grace Harriet, youngest daughter of the late John Thornton, Esq., Bengal Civil Service.

THOMAS—JENKINS.—On June 30th, at St. John's Church, Cardiff, by the Rev. David Davies, M.A., Vicar of Newcastle, Bridgend, John Lynn Thomas, late House Surgeon at the Cardiff Infirmary, to Rosina Mary, only daughter of the late Edward Jenkins, Esq., of Penylan, Cardiff.

VOLATTI—MUSGRAVE.—On June 22nd, at Holy Trinity Church, Whitehaven, by the Rev. James Anderson, Dr. W. J. Volatti, late Royal Navy, to Mary A. F. Mrs. Musgrave, of Whitehaven, Cumberland.

DEATHS.

BURCHELL.—On July 5th, at Delamers, Bradwell-on-Sea, Essex, Peter Lodwick Burchell, M.B. Lond., F.R.C.S. Eng., aged 74.

SWINDELL.—On July 3rd, at Whetstone, N., Joseph John Swindell, Surgeon, in his 75th year.

TRIMNELL.—On July 2nd, at Southsea, Deputy Surgeon-General D. W. Trimnell, Madras Army, son of the late Rev. G. C. Trimnell, aged 58.

WILLINGTON.—On July 3rd, at The Cottage, Cortayne-road, Fulham, Henry Willington, M.D., late of South Kensington, in his 80th year.

WRIXON.—On June 29th, at Rose Lea, Castlebar-road, Ealing, J. Wrixon, Esq., M.R.C.S., late of Watford, Herts, and eldest son of the late Captain Wrixon, 16th Lancers.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 7th, 1892.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Rain-fall.	Remarks at 8.30 A.M.
July 1	30·26	W.	60	55	122	74	62	–	Hazy
" 2	30·17	W.	63	58	124	78	58	–	Bright
" 3	29·70	S.W.	69	61	127	83	61	..	Hazy
" 4	29·90	S.W.	67	61	125	80	61	..	Cloudy
" 5	30·00	W.	62	57	117	70	55	..	Cloudy
" 6	29·93	W.	61	56	123	69	55	·45	Cloudy
" 7	29·67	S.W.	63	59	105	67	60	·3	Raining

Notes, Short Comments & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

CARPENTER AND DUKES DEFENCE FUND.

WE are informed that the appeal made in connexion with this fund has not been responded to in so free a manner as could be wished, considering the principle involved. Dr. Carpenter's family have generously declined to take any part of the subscriptions till Dr. Dukes is fully released from his share of the debt. The following additional subscriptions have been received:—

The Croydon Medical Reading Society	£10 0 0	Dr. Beard	£1 1 0
The Editors of THE LANCET	3 3 0	Dr. Mickle	1 1 0
		Mr. C. G. Woodd	1 1 0

A CORRESPONDENT cautions practitioners in engaging gentlemen to fill the post of locum tenens to first consult the Medical Register or to obtain some proof of their being registered.

Mr. C. F. Beadles.—The paper will appear in an early number.

ROMANCE IN THE PROFESSION.

To the Editors of THE LANCET.

SIRS,—I have chosen the above title for this communication as it certainly is the most romantic event that has occurred in my practice, now extending over thirty years. I must premise by stating that the patient alluded to had, through no fault of his own, failed in business and was utterly unable to cancel his indebtedness to me of a sum amounting to nearly £50.

Last Wednesday evening a lady and gentleman called to see me and on entering my consulting-room I found they were complete strangers. The first sentence of the latter revealed his nationality and it was evident he hailed from America. As near as I can remember the following conversation ensued. "I think, sir," said he, "you attended Mr. —— and his family." "That is so," replied I. "Well, sir, I am under considerable obligation to them, as when my wife here, who is a connexion of theirs, was a little girl and left an orphan they were very kind to her for years and I have never forgotten it. Now, the other night, sir, I went there to supper and as I had been out all day I was considerably tired out and in the evening I was resting on the sofa and I have no doubt they thought I was asleep. Well, sir, I heard all their conversation and Miss —— was telling my wife of all your attention and kindness to them—how you under Providence had saved her life and what sorrow they felt at not having been able to recompense you. Well, sir, they talked so much about it that before I got off that sofa I said to myself, 'That doctor shall be paid.' Now, sir, would you kindly look at this!" Here my visitor held out a malacca cane, the handle of which was carefully enclosed in a morocco case. On opening it I found the cane had a beautifully carved ivory handle, which was studded with jewels, consisting of small rose diamonds, eighty or ninety in number, worked into fanciful shapes representing small birds, fish, &c., and here and there a ruby, emerald and amethyst. It was a beautiful piece of art-work and I quite believe it cost, as he said, £x. He told me he had taken it for a debt in the East fifteen years ago. He then went on to say that if I admired it he hoped I would accept it as a recompense for my attendance upon Mr. —— and his family. I, of course, expressed my admiration at the good feeling and sympathy called forth by his proposal and was leaving the room to show the case to my wife when he stopped me, saying, "Doctor, I have another proposition to make to you. I own a number of plots of building land in the most rising city of ——, in South America, where I reside, and if you would prefer it I will give you a plot worth £100 now (and if you stick to it it will soon be worth double). You shall have the deeds sent to you and have it properly transferred on my return from my holiday here, and whichever you like to choose, the stick or the land, I shall be pleased to leave to you entirely." My friend kindly left the jewelled cane in my possession until the morning; but considering the number of burglaries going on in the suburban districts I decided on becoming a landed proprietor in the United States.

I am, Sirs, yours faithfully,

London, July 4th, 1892. LONDONIENSIS.

P.S.—A kind but possibly envious friend has just informed me that an Englishman cannot hold land in America without residing there for three months. If this is so, I shall be pleased to show you the stick some day.

MEDICAL AID ASSOCIATIONS AND FRIENDLY SOCIETIES.

To the Editors of THE LANCET.

SIRS,—Your lay contemporaries, several of them—most notably *The Times*, *City Press*, *Rock*, &c.—have in a very outspoken manner referred to the great injustice done to the profession by hospitals and dispensaries which admit patients to their benefits without any inquiry at all as to the applicant's ability to pay the modest fee which an ordinary general practitioner asks nowadays. If free medical treatment or treatment for 1*d.* per week is permissible, even though recipients can afford to pay a proper fee, the *City Press* asks why legal advice should not be afforded on the same terms? I have two newspapers—viz., the *Kidderminster Shuttle*, with an account of the "Proceedings of Council *versus* Medical Aid Officer," and in the conclusion of the report it is mentioned that several of the members of the General Medical Council stated openly that they held "strong private opinion" on these "medical aids." The President asked the counsel who defended Dr. Martin, "How would the members of your [the legal] profession like associations formed for the purpose of obtaining legal advice and assistance on similar terms?" Mr. Corbett (in the absence of Mr. Lawrence) replied: "I am certain of this, sir, that if such an association were formed we [i.e., the Incorporated Law Society] should endeavour to deal with it promptly." This expression of opinion was met with the ejaculation, "Hear, hear!" from the members of the Council. These associations have no wage limit; they admit anyone, they rob the outside medical men, they build premises and they save money at the expense of the slavish toil of their medical officers. In small towns they do infinitely more harm to the general practitioner than any of the hospitals or provident dispensaries. The General Medical Council is the only body to satisfactorily deal with this question.

I am, Sirs, yours faithfully,

A. T. H. D.

July, 1892.

To the Editors of THE LANCET.

SIRS,—So much has lately been said in disparagement of Medical Aid Associations that I should feel obliged by your allowing me, as medical officer to one of these associations, to place before your readers the other side of the question.

I fail to see the difference between the working of these associations and that of the club practices of medical men throughout the kingdom. It can only be a question of larger number, the fees paid by members being in both cases identical; and I think I may safely say that, as medical officers to associations, in the majority of cases, do not entertain private practice, they devote more time to their club patients than private practitioners are able to do. And this was a powerful incentive to the starting of Medical Aid Associations; and as to medical men holding these appointments, to my mind it is far better than accepting an assistancy at an absurdly low salary, or opening a dispensary in the slums and giving advice and medicine for sixpence and sometimes less. Unfortunately, in our profession the supply is greater than the demand, and we cannot therefore choose for ourselves, especially when one is without sufficient capital to embark in private practice in a good way. In your issue of June 18th a question was asked by "A Hospital Surgeon" relative to Medical Aid Associations appointing unqualified assistants. Very few associations provide unqualified men, and the tendency now is to substitute qualified assistants for them; but how do we differ in this respect from private practitioners? Apologising for the length of this letter,

I am, Sirs, yours faithfully,

June 21st, 1892. "AUDI ALTERAM PARTEM."

To the Editors of THE LANCET.

SIRS,—I hear of a patient lying ill not far from me who is attended by a club doctor, but waited upon by a trained hospital nurse. We move so quickly nowadays that I daresay in a year or two this will be the usual state of things, now that bishops and ex-ministers are so eager to join the nearest friendly society.—I am, Sirs, yours truly,

M.B.

July 4th, 1892.

THE LEEDS INFIRMARY.

RRESPONDENT signing himself "Chapeltown" complains of the ng uses the infirmary is put to. A new wing has been openedand, the writer says, "the hat is being sent round" for £5000 a year itional to maintain its efficiency. He objects to the abuse of the -patient department—to boards of guardians compounding with infirmary for the treatment of fractures, dislocations, &c., for ment of which the law has already provided as "extras" to the dical officers; to the infirmary continuing the after-treatment of es taken there in the first instance as emergencies; to employers labour sending their workmen there for small injuries &c. We are familiar with such complaints, which are reasonable, and which d very much to damp true charity for fitting cases.

M.—We recommend our correspondent to purchase either Fry's or we's "London Charities," which will give him all the information requires.

tia.—Such a certificate should have been submitted to the oner.

cus is thanked for his communication.

FIY-THREE MARBLES SWALLOWED AND EVACUATED WITHOUT INCONVENIENCE.

To the Editors of THE LANCET.

RS,—J. K. M——, a boy of sixteen, was admitted on Nov. 10th, 1891, the Cardiff Infirmary, under Dr. Wallace, on account of, as he d, having swallowed fifty-three marbles, which he could not get t. My thanks are due to Dr. Wallace for his kindness in allowing publish this, I believe, unique case. The boy informed me that ad with former experiments on himself swallowed as many as ty-three marbles and brought them up again without missing one of n. The reason why he took this extraordinary number was that he suffered on the date of admission heavy losses at a very exciting e of marbles with a friend and with a view to recover his lost erty he bet his more skilled (in marble playing) adversary that he ld swallow fifty "alleys." The patient won his bet, but was unable sume the play on account of his inability to reproduce his "com-eys" and "taws." On admission there was a distinct fulness in epigastrium, which felt, as Mr. Morland, the present house surgeon, rked, like a thick bag full of small cobble. On inverting and ing the boy the rattling as of a receding wave on a pebbly beach d be heard for yards around. The only allusion to a similar phe-enon that I know of is in the celebrated case related to Mr. Pick- by Mr. Hopkins of St. Bartholomew's Hospital, where twenty-five s in a child's stomach made "a devil of a noise, like a small hail-n." On Nov. 11th the patient passed seventeen marbles per anum 30 A.M., and at 7 P.M. on the same day he passed twenty-nine. The ining marbles were passed next day and the patient was discharged. marbles weighed ten ounces, and consisted mostly of "commoneys" a few "top" or "bottle alleys" and two "bloods." A small boy in of the narrow streets near Drury-lane Theatre informed me that of the "alleys" was what was called a "buck"—a species of great e on account of being very hard and rebounding well. It is inter-g to note that the first batch of seventeen was passed with hardly rces within twenty hours of being swallowed and they must have ed through the ileo-cæcal valve in single file; for several of the bles were three-quarters of an inch in diameter, the whole number ing a single column thirty-five inches long. In the museum of the l College of Surgeons there are many articles reminding one of an monger's shop, but which were got from the bodies of either insane ysterical individuals and the motive in all these cases was very rent from that which prompted the subject of this case to swallow marbles. I am, Sirs, yours faithfully,

J. THOMAS,
ly, 1892. Late House-Surgeon to the Cardiff Infirmary.

HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

ma.—On page 47 of our last issue, owing to an obvious error in e transcription of the notes of our report, Sir James Paget was de to say: "It would be a great happiness to him if he could help e progress of the Hospital by speaking of the great good which *he* d accomplished." The passage should of course have read, "the at good which it [i.e., the hospital] had accomplished."

We cannot defend C.'s conduct supposing it to be as represented. nsultants should set an example of professional propriety.

z does not give any address.

THE M.D. WASHINGTON.

To the Editors of THE LANCET.

s.—A young medical friend has asked me to make inquiries rding the Washington M.D.—how it is obtained, if a previous uni-ty training is required, an examination held, and what are the Several practitioners in his neighbourhood have lately called selves "Doctor" and looking up the Medical Directory he found their only acquired distinction was the Washington M.D.

I am, Sirs, yours truly,
ly 2nd, 1892. AN ENQUIRER.

ADVERTISING IN VICTORIA, BRITISH COLUMBIA.

THE following is a batch of advertisements from the *Victoria Daily Times*. *We trust that public professional opinion will take note of* this style by way of caution:—

"Dr. Hugh Watt, M.C.P.S.Ont., and B.C. Late of Cariboo. Office and residence No. 36½, Douglas-street (Dr. Milne's old residence)."

"Dr. G. L. Milne. Office—36, Douglas-street. Telephone at office, No. 16. Telephone at residence, No. 208."

"Dr. Sproule, B.A. Dublin University. Surgeon and Physician. Allopath and Homœopath. Late Surgeon British Royal Mail steamers. Electricity used when suitable. Rooms 1, 3 and 4, Clarence Hotel, Victoria."

"Dr. Ernest Hall, L.R.C.P. and C.M. Edin. Specialty—Eye, Ear, Nose and Throat. Jewell Block, *corner of Yates and Douglas-streets*."

"Drs. Hall and Leitch. Offices: Driard Block, 60, Douglas-street. Dr. F. W. Hall, M.D., C.M.; Dr. H. D Leitch, M.D., C.M., M.C.P.S.O., F.T.M.S. Specialty—Diseases of Women and Diseases of Rectum. Lately attending Woman's Hospital and Post-Graduate School and Hospital, New York."

"Homœopathy. Dr. John Hall, 98, Yates-street, over Cochrane and Munn's Drug Store. Chronic and Children's Diseases a specialty. Office hours from 1 to P.M. *only, excepting* Sunday and holidays."

Surgeon-Major Naismith, M.D., Ayr, is thanked for his communication, but we regret that it is too long and technical for insertion in our pages.

Athenæum should forward an application to the Lord-Lieutenant of the county for the purpose in question.

Mr. C. Elliot.—No.

THE OPIUM HABIT.

To the Editors of THE LANCET.

SIRS,—A medical man takes a practice in a small country village and finds opium taking extensively practised. The drug, both solid and as laudanum, is apparently sold *ad lib.* by the village chemist to anyone who asks for it. Is the medical practitioner justified in doing nothing, notwithstanding that he has several patients suffering from the effects of opium taking, who are anxious to get rid of the habit and probably would do so if the temptation did *not lie at their door*? And supposing a death certificate to be signed as due to opium eating, would there necessarily be an inquest? I enclose my card.

I am, Sirs, yours faithfully,
July 4th, 1892. OPIUM.

THE VILLAGE NURSE.

To the Editors of THE LANCET.

SIRS,—I should be very glad if any of your readers having experience in such matters would kindly give me hints as to the best method of instituting a "village nurse," one to attend the sick of all classes in a country village; whether it is better to obtain the nurse by advertisement or from a nursing institute. And, also, if there exists any society which assists in providing village nurses.

I am, Sirs, yours faithfully,
July 5th, 1892. RUSTICUS.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Messrs. Allen and Hanburys, London; Dr. Ascham; Messrs. Arnold and Son; Mr. Baines, Birkdale; Mr. Baird, London; Messrs. Burgoyne and Co., London; Mr. F. J. Bennett, London; Messrs. Brown, Gould, and Co., London; Dr. Boyland, Paris; Dr. Blanc, Cannes; Mr. Fletcher Beach, London; Dr. Bateman, London; Mr. Cecil Beadles, Colney Hatch; Dr. Henry J. Buck, Clapton; Mr. Lennox Browne, London; Dr. C. J. Cullingworth, London; Mr. Clinton, London; Dr. Harry Campbell, London; Mr. C. F. Clarke, Oxford; Messrs. Condy and Mitchell, London; Mr. Cameron, Hong-Kong; Messrs. Clay and Sons, London; Dr. Murdoch Cameron, Glasgow; Mr. Henry Cowe, Berwick; Dr. P. R. Dodwell, Brompton; Dr. Dees, Exeter; Mr. Hugh R. Davis, London; Mr. A. Duke, Dublin; Mr. Davis, Detroit, U.S.A.; Capt. A. G. Froud, London; Dr. Fitzpatrick, London; Dr. Theophilus Fisher, London; Mr. Frost, London; Mr. F. R. Firmin, London; Mr. F. W. Gelden, Halifax; Mr. Greenish, London; Messrs. Gudman et Cie., Paris; Mr. Gibson, Worcester; Mr. Glendinning, Abergavenny; Mr. Holm, London; Mr. Hulme, Birmingham; Mr. Haswell, South Shields; Mr. Humphreys, London; Mr. Herbert, Brompton; Mr. Jabez Hogg, London; Mr. R. N. Ingle, Jersey; Mr. L. E. Jones, Wales; Mr. D. Janson, Godalming; Dr. Norman Kerr, London; Messrs. Keith and Co., Edinburgh; Messrs. Krohne and Sesemann, London; Dr. R. Whittington Lowe, London; Surgeon-Lieutenant-Colonel Edward Lawrie; Mr. Muirhead Little; Mr. Hugh Lane, Bath; Messrs. Lloyd and Co., Leicester; Messrs. Leader and Sons, Sheffield; Mr. Victor Maurel; Mr. Mansell Moullin; Mr. F. M. Morgan; Mr. Widenham Maunsell, London; Prof. Macnamara, Dublin; Messrs. Macfarlane and Co., London; Mr. J. C. Mellis, London; Mr. Mason, Pateley Bridge; Mr. Moore, Liverpool; Mr. E. Merck; Messrs. McKewer, Son, and Co., Carlisle; Mr. Norris, Birkenhead; Dr. Nichol, Margate; Dr. O'Reilly, Tuam; Count Ostrorog; Sir James Paget; Mr. Van

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LETTERS, *each with enclosure*, are also acknowledged from—Mr. Fiske, Maidstone; Mr. Birchall, Liverpool; Mr. Ross, Spain; Dr. Morison, Hartlepool; Mr. Price-Jones, Kingston-on-Thames; Messrs. Ellgood and Fuller, London; Mr. Tredinnick, Shropshire; Mr. Owen, North Wales; Mr. Ernst, London; Mr. Irving, Burslem; Messrs. Blondeau et Cie., London; Mr. Tyte, Minchinhampton; Dr. Alexander, Honor Oak; Mr. Davies, London; Mr. Thin, Edinburgh; Miss Pudney, Earl's Colne; Mr. Breach, Newbury; Mr. Garman, Kendal; Baroness Von Roemer, Battle; Mr. Norman, Buckfastleigh; Messrs. Porteous and Co., Glasgow; Rev. Mr. Alison, Edinburgh; Brigade-Surgeon Lane Notter, Southampton; Mr. Roberts, Keighley; Messrs. Hooper and Co., London; Mr. Chatterton, St. Albans; Messrs. Evans, Sons and Co., Liverpool; Dr. Robbins, Quebec; Mr. J. Lemon; Dr. Main, East Ilsley; Mr. Savage, Kimberley; Mr. Edmunds, Lambeth; Mr. Hirst, London; Dr. Mason, Pontypool; Dr. Wilson, Pontypool; Mr. Berry, Pendlebury; Mr. Fitzgerald, Queenstown; Mr. Edwards, Boston, Mass.; Mr. Stephen, Preston; Mr. Martin, Bristol; Mr. Mackey, Pontnewydd; Mr. Borchert, Netley; Mr. Clark, Brighton; Mr. Atkinson, Sherborne; Mr. Patterson, Hetton-le-Hole; Messrs. Whitworth and Stuart, Manchester; Mr. Edwards, Bloomsbury; Mr. Ellis, Bishop Auckland; Mr. Rees, Cardiff; Mr. May, Tunstall; Mr. Toy, Chipping Norton; Mr. Dunn, Preston; Mr. Lucas, Cambs.; Mr. Wolcott, New York; Mr. Griffin, Reading; Prof. Osler; Messrs. Burroughs and Co., London; Mr. Layton, Southend-on-Sea; Mr. Griffiths, Milford Haven; Dr. Martin, Blackburn; Mrs. Hill, Newmarket; Mr. Gordon, Witheridge; Mr. Clarke, Blackheath; Mr. Heywood, Manchester; Mr. Thompson, Launceston; Mr. Jones, Aberkenfig; Mr. Clark, Edinburgh; Mr. Fuller, Ramsgate; Mr. Stenhouse, Glasgow; Mr. Roberts, Witheridge; 7, Chambers-street, Edinburgh; 82, Alvey-street, Walworth; G. S., Seething-lane; Gracious, London; S., St. Leonards-on-Sea; J. M. L., London; Permanency, Croydon; Achilles; British Medical Protection Association; Secretary, Manchester Southern Hospital; Zeta, London; W., London; Gerald, Cheshire; Toxicology, London; D., London; Bonaventure, Birmingham; Medicus, Maidstone; J. S., London; J. P., Kilburn; Cosmo, London; Accoucheur, London; Medicus, London; Rev., Peckham; D., Leeds; Traveller, London; M.B., London; T. M., London; Beta, London; R. H. J., Manchester; H. M., London; M.R.C.S., London; Viti; Permanency, London; Clavicle, London; A. B. C., London; J. S. S.; Medicus, Poplar; Tabes; A. B. C., London; Medicus, Tipton; L. M. N.

NEWSPAPERS.—*Cape Times, Belfast News Letter, Newcastle Chronicle, East Anglian Daily Times, Hobart Mercury, Sheffield Independent, Grocers' Review, Alliance News (Manchester), Public Opinion, Public Health, Temperance Record, Pioneer Mail, Kentish Mercury, Times of India, Goole Weekly Times, Macclesfield Chronicle, Coleraine Constitution, Luton News, Border Counties Gazette, Kettering Leader, Barry Dock News, Blyth Examiner, North Wilts Herald, Bridgnorth Journal, Barnsley Independent, Admiralty and Horse Guards Gazette, Egyptian Gazette, Le Courrier de la Presse (Paris), &c.*, have been received.

Medical Diary for the ensuing Week.

Monday, July 11.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M. and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M. Thursday, 9 A.M.

NATIONAL ORTHOPÆDIC HOSPITAL (Great Portland-street, W.).—4 P.M. Mr. A. H. Tubby: Congenital Dislocations.

Tuesday, July 12.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.

GUY'S HOSPITAL.—Operations, 1.30 P.M.; and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A. Throat Department, Tuesdays and Fridays, 1.30 P.M. Elec therapeutics, same day, 2 P.M.

Wednesday, July 13.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, *GREAT ORMOND-STREET*.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, July 14.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

Friday, July 15.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, July 16.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

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The Croonian Lectures

ON THE

EMISTRY AND THERAPEUTICS OF URIC-ACID GRAVEL AND GOUT.

livered before the Royal College of Physicians of London,

BY SIR WM. ROBERTS, M.D. LOND., F.R.S.

LECTURE IV.

HEMISTRY OF URATIC PRECIPITATION CONTINUED.—BEARING OF THE INVESTIGATION ON THE THERAPEUTICS OF GOUT.

Topography of Uratic Deposits.—The topographical dis- ibution of uratic deposits through the various organs and ssues of the body exhibits certain well-marked characteristics. hese deposits are found almost exclusively in structures elonging to the connective-tissue class—in cartilages, liga- nents, tendons, and other fibrous structures, and in the utaneous and subcutaneous connective tissues. On the other hand, uratic deposits are conspicuously absent from the muscular tissue, and from the substance of the brain, liver, pleen, and lungs. The tissues which are liable to uratic pre- cipitations are, however, not equally so in the different parts of the body. The cartilages, ligaments and tendons in and about the joints which are bathed with synovia are much more obnoxious to these deposits than are cartilages and ibrous structures situated at a distance from joints and which are not bathed with synovial fluid. It is further to be noted that uratic deposits favour the more superficial and cooler parts of the body, especially the upper and lower extremities, and are more rare in the deeper and warmer interior parts of the trunk. It may be inferred from these particulars that the influences which coöperate to determine the site of uratic precipitations are of several and quite different kinds. I do not propose to discuss this subject comprehensively, but to refer only to two points which seem capable of a chemical or physical elucidation. These are the influence of the proportion of sodium salts in the several organs and tissues and the influence of synovia.

1. *Influence of the Proportion of Sodium Salts.*—We have seen that the dominant factors in uratic precipitation, as studied in the laboratory, are the proportion of urates and the proportion of sodium salts contained in the medium.[1] The highest tendency to precipitation is reached when there is a concurrence of these two factors in maximum intensity. A medium may be rich in urates, but if it be at the same time poor in sodium salts its tendency to precipitation is very feeble, and *vice versâ*. This fact has a direct bearing on the topography of uratic deposits. For supposing the system of a gouty man, on the eve of an outbreak, to be throughout equally impregnated with urates, it is obvious from the experimental evidence before adduced that uratic precipitation would take place earliest and most copiously in those parts which were richest in sodium salts, and take place latest or not at all in those parts which were poorest in sodium salts. Let us now examine the distribution of sodium salts in the body and seek to ascertain if there be any correspondence between the liability to uratic deposits in the several tissues and organs and the proportion of sodium salts contained in them. In the subjoined table I have arranged the results of analysis on this point. The materials available for comparison are not so full and precise as could be desired, but their general significance is, I think, quite unmistakable. In order to render the comparison more complete and instructive I have included in the table not only the results with respect to the solid organs and tissues, but also those with respect to blood-serum and its derivatives—lymph and synovia.

TABLE XVIII.—*Showing the Percentage of Sodium Salts in the several Fluids, Tissues and Organs of the Body.**

Blood-serum	0·70 per cent.
Lymph	0·70 ,,
Synovia	0·80 ,,
Cartilage	0·90 ,,
Fibrous tissue	0·70 ,,
Blood-corpuscles	0·20 ,,
Brain	0·20 ,,
Muscle	0·08 ,,
Spleen	0·04 ,,
Liver	0 02 ,,

* The figures in this table are to be taken as approximate numbers. Most of them are deduced from analyses cited in Gamgee's "Physiological Chemistry." The figures for synovia and fibrous tissue are deduced from the author's own analyses of the synovial fluid and tendons of the ox, the amounts being reckoned as chlorides. A more recent analysis of human lymph by Munk and Rosenstein (Maly's Jahresbericht, Band xx., p. 40) gives the sodium salts as 0·80 per cent.

An inspection of the table shows that the tissues which are liable to uratic deposits are very much richer in sodium salts than the tissues and organs which are not thus liable. The remarkable immunity from uratic deposits enjoyed by the muscular tissue, by the brain, liver and spleen, may be inferred to be due, for the greater part at least, to their poverty in sodium salts. Turning to Table XIII., we see that the solvent power of a medium for sodium bi-urate increases in correspondence with its lessening proportion of sodium salts. Brain has only about one-fourth the percentage of these salts as compared with cartilage and fibrous tissue, and muscle only one-tenth. This difference signifies (roughly) that brain has four times more power and muscle ten times more power of dissolving sodium bi-urate than cartilage and fibrous tissue; and therefore, respectively, four and ten times more power of resisting its precipitation in their substance. It might probably be truthfully said, on this ground, that brain, muscle, liver and spleen could not become the sites of uratic deposits until the connective tissues had been in this respect exhausted. It is true that the immune tissues and organs have a quicker circulation than cartilages and tendons, and this doubtless contributes importantly to the difference, but it scarcely fully accounts for it, otherwise we should expect that the skin, which is abundantly supplied with bloodvessels, would share this immunity. The prepotency of the cartilages and fibrous tissues to induce uratic precipitation must obviously operate in a conservative direction and serve to protect the more vital organs of the gouty from similar precipitations, where they would produce more deadly effects.

2. *Influence of Synovia.*—The connexion between synovia and gouty deposits is evidently very close and special. Synovial fluid has itself been repeatedly found heavily laden with crystals of sodium bi-urate. In the great majority of the less severe cases of gout the deposits are exclusively confined to those cartilages, ligaments and tendons which are in actual contact with synovial sacs or synovial sheaths. With regard to the articular cartilages it may, I think, be demonstrated that the uratic precipitation actually takes place *from* the synovial fluid and is not self-originating in the cartilaginous substance. Vertical sections of gouty cartilages are very convincing on this point. If such sections are examined under the microscope, it is seen that the deposit hugs the synovial surface of the cartilage and that it becomes progressively sparser and sparser towards the deeper layers, the central and deepest parts being usually quite free from deposit. This mode of distribution moreover implies that the process of deposition, so far as concerns the cartilage, is a purely passive one and is no wise active and vital in its initiation. We may suppose that the urate dissolved in the synovia penetrates by liquid diffusion into the superficial layer of the underlying cartilage and that when the critical moment arrives precipitation takes place simultaneously in the synovia and in the cartilage. On this view the after consequences are entirely secondary and are due to the reaction of the tissue against the presence of a foreign body lodged in its substance. It may interest you to know that this process can be artificially imitated in the laboratory and that a counterfeit gouty joint can be produced in the articulations of a dead animal. I here show you samples of such counterfeits. They were prepared in the following manner. Tarsal bones of a pig were suspended in wide-mouthed phials charged with a saturated solution of sodium bi-urate made in hot water and then cooled. The phials were chloroformed, corked and placed in the warm chamber or at the temperature of the room. Reprecipitation of the bi-urate takes place in two or three days. If the bones are now

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[1] The proportion of calcium and magnesium salts is always too small to have any appreciable influence on the occurrence of uratic precipitation.

examined, the articulating ends are found to be encrusted with a chalky matter, which cannot be wiped off with a towel or removed with a nail-brush. They present an exquisite imitation of the plastered appearance of a gouty cartilage. If vertical sections of such cartilages (previously hardened in absolute alcohol) are made and examined with the microscope, the deposit is seen to be situated in the substance of the tissue, close beneath the synovial surface of the cartilage and to be composed of a dense felt of fine needles of bi-urate. The deeper layers of the cartilage are not affected. It may be inferred that the deposits which occur in the ligamentous and tendinous structures of gouty joints are produced in the same way as those found in the cartilages, and that the precipitation takes place, chiefly at least, from the synovial fluid bathing them, and that they are not due to primary morbid changes in the structures.

Two questions may now be asked : First, Why does gouty precipitation take place preferentially in synovia rather than in its cognates, the serum of blood and lymph? Secondly, why do the joints differ so much from each other in their liability to attack? I will discuss the two questions together, as the arguments often dovetail into each other. It may be that there is, as Sir A. Garrod suggests, some special attraction in the joints for uric acid. There are, however, other factors which come into play. Synovia is a comparatively motionless fluid, while serum and lymph are in ceaseless motion. As a still pool crystallises into ice sooner than a running brook, so likewise, supposing serum, lymph and synovia to be equally impregnated with urates and sodium salts, the tranquillity prevailing within the synovial cysts would give to synovia a priority in uratic precipitation over the restless blood-serum and lymph. Then as regards the varying liability of the different joints to gouty attacks, it may be pointed out that the synovial pouches and sheaths are shut sacs, standing apart from each other and isolated from the general panmixia of the circulation. It might consequently be expected—indeed it is an observed fact—that the synovial fluids in different joints should present differences in the relative proportion of their constituents. Some are certainly more concentrated than others; and we can easily believe that they are not quite identical in their degree of impregnation with urates and with sodium salts. In this way the several joints might come to vary considerably in their liability to uratic precipitation.

Frerichs[2] has contributed some interesting particulars on synovia in animals. His observations indicate that synovia varies both in quantity and quality under different modes of life. He found that stall-fed horses and oxen, leading an idle existence, had twice as much synovia in their joints as similar animals roaming in the meadows or doing work. Moreover the composition of the fluid varied in the two cases. In the idle animals the synovia was more watery and contained less albuminoid matters but, and this is significant, a larger proportion of mineral salts, which consist almost entirely of sodium salts. We might conjecture from this fact that if horses and oxen were liable to uratic precipitations the idle stall-fed animals would be more subject to such deposits than the same animals leading a more active life. Perhaps we may discern herein one reason why men who lead a sedentary life are more subject to gouty deposits than men who take active exercise.

Interpretation of the Appearances found at the Necropsy of Gouty Subjects; Re-solution of Gouty Deposits.—Before leaving the subject of the topographical distribution of gouty deposits I should like to say a word on the need of caution in interpreting the appearances, both positive and negative, observed at the necropsy of gouty subjects. The incidents of the gouty diathesis, especially in the early periods, pursue a markedly interrupted course. Long intervals of months or years often elapse between the arthritic outbreaks. During these intervals the blood of the gouty recovers its purity more or less completely and approximates in its content of uric acid to the blood of a healthy person. The solvent relation of the bodily fluids to the material of uratic deposits is simply a question of saturation and subsaturation. If the lymph or synovia at a certain spot becomes saturated, or rather supersaturated, with sodium bi-urate, precipitation of that substance will inevitably take place into the contiguous fibrous tissues. And if after such an event the lymph or synovia recovers its purity and becomes approximately free from bi-urate, as in due course usually comes about, a process of slow re-solution will of necessity set in. For, as has been before demonstrated, sodium bi-urate, although very sparingly soluble, is by no means insoluble in these media. The rate and amount of re-solution of uratic deposits must necessarily vary greatly in different cases, according to the degree of subsaturation attained by the bodily fluids, the massiveness and permeability of the deposits, and the length of time during which the favourable conditions endure.

If regard be had to the often long survivorship of gouty persons and the interrupted course of the arthritic incidents it seems highly probable, in the lapse of a long life, that deposition and re-solution of uratic matter may take place once and again in a gouty joint. There are undoubted instances, of which Sir Dyce Duckworth[3] records one observed by himself, where no uratic concretions have been found after death in joints which had at some previous period undergone typical gouty attacks. The presumption in such a case is not that deposits never existed, but that they had been redissolved in the intervals of amendment. Uratic concretions in the pinna of the ear have sometimes been actually observed to come and go and come again. There is no reason why the same thing should not occur within the joints, and such vanished concretions might leave behind them permanent changes in the cartilages and bony structures as tell-tale evidence of their former presence. On the other hand, the discovery after death of uratic deposits in a joint is not always to be regarded as a certain proof that the joint had passed through an inflammatory gouty attack. The observations of Moxon and Fagge seem to warrant this conclusion, and they reasonably suggest that when the precipitation of the urates takes place slowly and by degrees there may be no accompanying inflammatory outbreak to mark the event.[4] The experimental evidence before adduced indicates that when lymph or synovia is impregnated with sodium bi-urate to or above 1 part in 6000 the medium is supersaturated and precipitation either actually occurs or is impending. On the other hand, when these fluids contain less bi-urate than 1 part in 10,000 the medium is under-saturated and there resides in it a certain power of redissolving uratic deposits, and of course the nearer the medium is to freedom from urates the higher rises this solvent power. It may further be inferred that the solvent action will be most effective in the case of deposits situated in textures like the fibrous tissues, which have a comparatively free lymph flow, and conversely that it will be least effective in textures like the cartilages, which have a sluggish lymph flow. This is probably the reason, or chief reason, why the cartilages figure more prominently than the fibrous structures in the morbid anatomy of old gouty joints. Probably both tissues were originally infiltrated with bi-urate crystals in equal degrees; but the fibrous structures afford greater facilities for their re-solution in the periods of amendment than the cartilages, and hence the greater persistence of the deposits in the latter tissues.

The Mode in which Uric Acid produces its Injurious Effects.—A problem of great interest in regard to the elucidation of gouty manifestations is the mode or modes in which uric acid produces its injurious effects. The main question is whether these effects are exclusively due to the *mechanical damage* consequent on its precipitation as sodium bi-urate in the tissues, or whether, in addition, uric acid circulating in the blood in a state of solution is capable of acting as a *true poison*. With regard to the incidents of regular gout the mechanical theory seems to offer a natural and complete explanation. The crystalline urates precipitated in the cartilaginous and fibrous structures of the joints necessarily act as foreign bodies; they excite irritation, clog the lymph channels, exercise pressure on the tissue elements and impede their nutritive operations. These effects sufficiently account for the inflammation, pain and swelling which ensue, and explain the remoter degenerative changes which follow after. Nor need we look beyond physical conditions to account for the diversity witnessed in the local manifestations. It is easy to understand that depositions occurring within the tense unyielding structures of the joints would produce widely different results from similar depositions in the loose subcutaneous tissue or in the rim of the ear. It is equally easy to understand that the suddenness or slowness of the precipitation, its copiousness or scantiness, would necessarily cause great variation in the intensity and character of the local disturbances. So easy and natural is this explanation that we might even predicate, from our general knowledge of pathological cause and effect, that if similar depositions of crystals of carbonate of lime, or of any other inert substance, were to take place in the same localities there would follow very much the same train of morbid sequences as are witnessed in connexion with uratic precipitations. It is in the explanation of the phenomena of irregular gout that the mechanical theory of the action of uric acid seems inadequate, and it is to meet this lack that the theory of a poisonous action has been set up and is invoked. The visceral disturbances and manifold neuroses which trouble the gouty have not yet been anatomically traced to uratic precipitation, and there seemed no other way of explaining their occurrence, if they were to be linked with uric acid at all, except by assuming that uric acid was possessed of toxic properties.

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[2] R. Wagner's Handwörterbuch d. Physiol., Bd. iii., pt. 1, p. 403

[3] Treatise on Gout, p. 63.

[4] Fagge and Pye-Smith's Handbook of Medicine, p. 671.

The acceptance of this view appears to me on several grounds to be extremely difficult. There is, first, the complete absence of direct experimental proof. Animals have been made to ingest large quantities of uric acid with their food, and urates in solution have been freely injected into their veins without eliciting any signs of poisoning. In the next place, the idea that uric acid is poisonous seems opposed to broad biological analogies. Uric acid is the physiological homologue of urea: each of these bodies constitutes in its separate domain the final term of nitrogenous metabolism. Now, it cannot be said, without an abuse of terms, that urea is a poisonous substance,[3] and it would be strange if its homologue, uric acid, differed from it in so important a particular as the possession of toxic properties. The theory appears not less improbable when examined from a nearer point of view. The system of the gouty man is at times surcharged with uric acid. On the eve of an outbreak the fluids of his body, in parts at least, must be impregnated with bi-urate to saturation: for of course no precipitation can occur until this point is reached. Yet with fluids saturated with urates such persons often betray not the slightest sign of poisoning and enjoy complete immunity from symptoms of every kind until overtaken unwarned by the sudden precipitation which provokes the arthritic attack. Again, the manifestations of irregular gout are so extremely diverse in seat and character that it is hard to believe that they can be produced by one and the same toxic agent. Sometimes they implicate the stomach, sometimes the liver or heart or lungs and oftenest of all the nervous system. This diversity is, however, easily explicable on the supposition that the disturbances are not caused by uric acid in a state of solution acting as a poison, but are really due to actual precipitation of crystals of bi-urate into the connective and fibrous structures of the implicated organs or into the fibrous sheaths of the nerves which control their functions. Observations at the bedside and in the dead-room lead to the inference that uratic precipitation is very variable in its mode of incidence. In certain conditions the crystals descend in sudden and copious showers, which provoke a sharp inflammatory reaction, as in the regular arthritic seizures. In other conditions the crystals fall in gentle sprinklings sufficient perhaps to excite irritation if the implicated tissue be a sensitive one, but not enough to cause downright inflammation. The peculiar pricking pains in the joints which some gouty persons invariably experience after partaking of certain wines are highly suggestive of the occurrence of these slighter precipitations. Now if these slighter precipitations instead of falling on the joints fell upon the membranes of the brain or upon the fibrous sheaths of the nerve roots this would, I submit, afford an adequate explanation of the phenomena of irregular gout. Of course it may be objected that no such slight precipitations have actually been found. But have they been looked for? Has the microscope been used in the investigation? In prosecuting such a search it would have to be borne in mind that such precipitations would be apt to be fugitive, and that negative results would have to be interpreted with caution. For it is obvious, in the case supposed, that when the stress of saturation of the fluids with urates was relaxed and the blood again recovered its power of dissolving these compounds these slight deposits would be speedily removed by re-solution, and not a trace of them might remain at the necropsy. We scarcely realise how imminent a slight but widespread precipitation of the crystalline bi-urate must not unfrequently be in the gouty system. It was shown in the preceding lecture that when the serum of the blood is impregnated with sodium bi-urate to the extent of 1 part in 6000 supersaturation is attained and precipitation is then, of course, imminent. It was also pointed out that Sir A. Garrod had proved by quantitative analysis that the blood-serum of the gouty man is sometimes actually impregnated with uric acid to this extent. These two facts taken together indicate that the explanation here suggested of the phenomena of irregular gout stands on a strong basis of *à priori* probability and thus dispenses with the necessity of assuming that uric acid and its compounds are endowed with poisonous qualities. This mode of viewing the subject enables us to bring the diverse morbid effects of uric acid into uniform line. Uric acid and its compounds are deleterious simply because of their sparing solubility in the bodily media. It may be said that the final cause of uric-acid gravel is the sparing solubility of free uric acid in urine, and in like manner it may be said that the final cause of gouty precipitations is the sparing solubility of sodium bi-urate in blood-serum, lymph and synovia.

BEARINGS OF THE INVESTIGATION ON THE THERAPEUTICS OF GOUT.

In dealing with the therapeutics of gout I shall confine myself to those points which have a chemical bearing and which can be brought into touch with the results of the foregoing investigation. According to the views developed in these lectures the mischief done by uric acid in gout is contingent on its precipitation as crystalline bi-urate in the tissues or in the fluids of the body. Within this limited scope the study of the treatment of gout resolves itself into a study of the means we possess of controlling the factors which promote or hinder this precipitation. These means may be divided into those which belong to the domain of diet and regimen and those which consist in the administration of medicinal substances.

I. DIET AND REGIMEN.

Restricting the production of Uric Acid.—It has been shown that one of the main factors in determining uratic precipitation is the percentage of urates in the medium. Other things being equal the larger the proportion of urates present the earlier and more abundant is the deposition of the crystalline bi-urate. Our power of controlling this factor lies almost entirely in the direction of regulating the diet. Numerous series of experiments have been made on the effect of diverse kinds of food on the production and excretion of uric acid. The chief point of therapeutical interest that has been clearly made out is this, that the ingestion of large quantities of proteid matter is attended with an increased production of uric acid and *vice versâ*. It does not appear clear that proteid substances derived from the animal kingdom differ in this respect from those derived from the vegetable kingdom. But inasmuch as the commonly used articles of food of animal origin—such as butcher's meat, poultry, game, fish, eggs and cheese—are richer in proteid stuff than the commonly used articles of vegetable origin—such as bread, oatmeal, rice, potatoes and garden products—it is true that a vegetable diet is less productive of uric acid than an animal diet. The most trustworthy experiments indicate that fat, starch and sugar have not the least direct influence on the production of uric acid; but, as the free consumption of these articles naturally operates to restrict the intake of nitrogenous food their use has indirectly the effect of diminishing the average production of uric acid. There may be, and indeed undoubtedly are, other differences between animal and vegetable articles of food, and between one article and another of the same class, which are highly important. They differ considerably among themselves in their digestibility and in their stimulating qualities, but in regard to the point under review—namely, their direct influence on the production of uric acid—articles of diet must, as far as our present knowledge goes, be classified according to the percentage of albuminoid matters contained in them. As a rough guide in the choice of food for the gouty the subjoined table may prove useful.

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[3] The word poisonous is here used with its ordinary meaning. Almost any substance which could be got into solution in the blood in very large quantities would produce deleterious effects—even common salt. Urea can be taken into the stomach in drachm doses without harm, and Dr. Rose Bradford, who has paid particular attention to this point, informs me that the human body contains habitually in the normal state from thirty to forty-five grains of urea, and may contain very much larger quantities than this without provoking any signs of poisoning.

TABLE XIX.—*Showing the Average Percentage of Albuminoid Matters contained in Diverse Articles of Food.*

Animal food :	Albuminoid matter.
Butcher's meat	19 per cent.
Fowl	20 „
Game	22 „
Fish	17 „
Egg	13 „
Milk	4 „
Cheese	30 „
Vegetable food :	
Bread	8 „
Oatmeal	12 „
Rice	6 „
Green peas	6 „
Potatoes	2 „
Carrots and turnips	1 to 2 „
Green vegetables and salads	1 to 2 „
Fresh fruit (excluding nuts)	0·5 to 1 „

In choosing a diet for persons who are disposed to uratic precipitations regard must of course be had to the whole condition, and especially to peculiarities of the individual. Nowhere perhaps is it more necessary than in gout to consider the man as well as the ailment, and very often more the man than the ailment, but the general rule in reference to the point under notice is, I think, pretty clear. Gouty people should be advised to partake cautiously of butcher's meat, fowl, game and cheese, and to partake as freely as their digestion will permit of bread, rice, garden vegetables, salads, and fruit. The advantage to be gained from an adjustment of the dietary on these lines may be inconsiderable or even inappreciable in cases of inveterate gout, but it may be of critical moment in the slighter cases. A diminution of one or two grains a day in the amount of uric acid thrown into the circulation may make all the difference between the occurrence or non-occurrence of an arthritic attack.

The use of alcoholic beverages, as constituting an important feature in our dietetic habits, may here claim a word of comment. The most reliable researches indicate that these beverages in their legitimate use exercise no appreciable influence either way on the quantity of uric acid produced in the body. It was, moreover, found in my laboratory experiments that the addition to the medium of small quantities, such as might conceivably reach the circulation, of spirits, wines, or malt liquors had not the slightest effect on the solubility of sodium bi-urate, or any influence in accelerating or retarding the precipitation of the bi-urate in blood-serum impregnated with uric acid. The special and highly important part played by certain classes of alcoholic beverages in fostering a proclivity to uratic depositions is evidently of a very subtle and complex character, and has apparently no direct reference to the chemical problems discussed in these lectures.

The Use of Culinary Salt.—It was shown in the preceding lecture that the solubility of sodium bi-urate was conspicuously influenced by the proportion of sodium salts in the medium. I observed, moreover, in my experiments on the maturation of blood-serum impregnated with uric acid that the addition to the medium of small quantities of sodium chloride (0·1 per cent. or even less) always appreciably hastened the precipitation of the crystalline bi-urate. It has also been shown that the topographical distribution of uratic deposits through the body bears a close and striking relation to the percentage of sodium salts contained in the several organs and tissues. Indeed, it might apparently be said with truth that if we possessed the power of regulating the dosage of sodium salts in the fluids and tissues we should be able effectively to control the occurrence of uratic depositions. Our power in this respect is, however, limited. Sodium salts belong to the physiological constants of the blood and their proportion therein can only be modified within a comparatively narrow range. These remarks apply especially to the most abundant of them, the sodium chloride. It has been found in experiments on animals that when common salt is given in excess with the food, or injected into the veins, the surplus is for the most part quickly removed by the kidneys, and there is only a small and transient increase of its percentage in the blood. Conversely, when animals are fed with food abnormally poor in salt there is only a slight falling off in its proportion in the blood, while it almost disappears from the urine. The blood clings with great tenacity to its proper percentage of sodium chloride, and the experimental evidence indicates that in case of a threatened salt famine within the economy the blood has the faculty of supplying its necessities by extracting salt from the less vital fluids and tissues, and contrariwise, in case of a glut of salt the blood, the overplus is temporarily passed over into serous cavities until such time as the kidneys have succee in restoring the normal equilibrium.[6] All this leads to t inference that by lessening the intake of salt with the f we should abate its proportion in the blood only to a sli degree, but should diminish its proportion in the synov fluids and fibrous tissues considerably. *Acting on these id* I have been in the habit for some years past of directi gouty patients to restrict, as far as practicable, the use common salt with their meals.

II. ADMINISTRATION OF MEDICINAL SUBSTANCES.

In forecasting the possible effects of medicinal substanc given internally in the treatment of gout it is well to fu realise the actual conditions of the problem. These a widely different from those presented to us in urina gravel. In the latter case the daily dose is designed to fo an addition to a comparatively small bulk of fluid—namel to the forty or fifty ounces which constitute the diurnal d charge of urine. In the case of gout we are seeking to ma an impression on a much larger bulk of fluid—namely, on th totality of the blood, lymph and synovia—a quantity in *man of average weight certainly not less than twenty pound* Consequently the effect of our dose must be proportionate less. Moreover, the urine is a dead excretion; it takes an *keeps what is cast into it and has no power of self-purificatio* The blood, on the other hand, is a living stream with hi powers of self-adjustment to a normal standard. A practical dose of an alkaline carbonate enables us to radically alt the urine—to change its reaction from acid to alkaline an thereby to exercise a decisive therapeutical effect in uric-aci gravel; but the same dose only produces a feeble an *transient effect on the mass of the blood and lymph.* Th blood passes on the surplus alkali with all speed through th kidneys into the urine and quickly reattains its proper physio*logical standard of alkalescence.*

The medicinal agents which have been chiefly employed in the treatment of gout with a view of controlling the tendenc *to uratic precipitation* are the *carbonates and phosphates* o potash and soda, the carbonate of lithia, piperazine and th waters of mineral springs; and it is to these alone that I propose to call attention.

Alkalies.—Alkaline substances are largely employed in th *treatment of gout, both as pharmaceutical preparations* and as components of mineral springs. It is believed that the alkaline carbonates and phosphates administered internally by increasing the alkalescence of the blood enhance its solvent power on the material of gouty deposits and thereby delay or prevent their formation. The experimental evidence laid before you entirely destroys this hypothesis. It has been conclusively proved that alkalescence, as such, has no influence whatever *on the solubility of sodium bi-urate.* It has, moreover, been shown that the addition of an alkaline carbonate to blood-serum impregnated with uric acid produces *no appreciable effect on the process of maturation* and the advent of precipitation of the crystalline bi-urate in the medium. The use of alkalies in gout has been advocated on *another ground. It is held in a vague sort of way* that there is an undue prevalence of acid in the gouty system and that the blood is less alkaline than it should be. In some quarters *it is even believed that this is the primary vice of the* gouty state, and that there exists a so-called "acid dyscrasia" which dominates the whole condition. I have been at some *pains to ascertain what foundation there is for this* belief. I have found very little of any kind and none that is really valid. In the numerous examinations of the blood in gouty subjects made by Sir Alfred Garrod the serum was invariably found to be alkaline, never acid or even neutral. He remarks that there is often (not always) a marked alteration in the degree of its alkalinity, and *that in* cases of chronic gout the serum sometimes shows a near approach to neutrality. It is, however, obvious that observations on the alkalinity of the blood have no validity in regard to the p under consideration unless they are made on cases of g pure and simple. Gout is often complicated not only w pyrexia but with serious secondary lesions in the kid and joints which lead to a profound cachexia. The secondary lesions bring with them blood changes of their own, which are only remotely connected with the primary disorder and have no bearing on the etiology of uratic p cipitation. In the last few years some exact quantitative measurements have been made of the alkalinity of the blood both in health and in disease.[7] These researches indicate that a diminished alkalescence of the blood is a common pathological deviation; and that it occurs in a variety of conditions which have no special relation to gout—namely, in pyrexia, in diabetes, carcinoma, acute rheumatism, anæmia, leukæmia and apparently in every kind of general cachexia. These facts and considerations suffice to show that in the present state of our knowledge the belief in an acid dyscrasia in gout rests on a pure assumption.

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[6] Lavage du Sang, by Dastre and Loye, Archives de Physi 1888, p. 93.

Carbonate of Lithia and Piperazine.—These two substances have been introduced into the treatment of gout expressly on chemical grounds. Solutions of these substances possess a high solvent capacity for free uric acid; it has been inferred from this fact that their administration internally might exercise a favouring influence on the solubility of sodium bi-urate in the bodily fluids and thereby tend to prevent the formation of uratic depositions. This inference, however, does not appear to be justified. I found experimentally that the addition of carbonate of lithia or piperazine in the proportion of 0·1 per cent. and 0·2 per cent. to blood-serum or synovia had not the slightest effect in enhancing the solvent power of these media on sodium bi-urate, nor the least effect in retarding its precipitation from serum or synovia artificially impregnated with uric acid. If these bodies have any beneficial action in gout, it is, I think, certainly not due, as has been supposed, to their solvent action on the material of gouty concretions.

Mineral Springs.—The bearing of the inquiry on the use of mineral waters is, I think, of important practical interest. A considerable number of the springs to which gouty patients resort are strongly impregnated with the salts of soda. Now it has been conclusively shown that all the salts of soda act adversely on the solubility of sodium bi-urate and hasten its precipitation, and it may be inferred that the introduction of these salts into the circulation must tend to favour the occurrence of uratic depositions in the body. It is not therefore surprising to learn that not unfrequently the first effect of these waters on a gouty patient is either to provoke a downright attack of gout or to aggravate the symptoms under which he was suffering. This event is now recognised by the physicians practising at those spas as a thing to be looked for, and experience has taught them the necessity of caution in regard to the quantity of the waters to be taken by new comers. They comfort themselves and their patients, however, with the belief that this preliminary storm is a necessary prelude to the calm amendment which is to follow. There is no doubt some foundation for this idea. It is no fiction that a gouty man, tormented with symptoms of irregular gout, is relieved by a regular arthritic attack. I presume that this arises from the complete, or approximately complete, precipitation of the urates floating in his blood and lymph into the structures of the joints. The urates are thereby as effectually removed from the vital fluids as if they were eliminated by the kidneys. It must, I think, be allowed that this is a rough mode of cure and that it brings with it serious pains and perils of its own. My impression is that gouty persons should either entirely avoid springs which owe their activity to sodium salts or should use them very sparingly. It is difficult to believe that they can do any direct good and easy to believe that they can do direct harm. If they do any good at all, it must be indirectly, by acting on the liver and the intestinal tract; and we possess other means of effecting this purpose without inducing any collateral risk. There are, however, other springs of high and growing repute in the treatment of gout which are not open to these objections. These springs contain no soda or only traces, and the sum of their mineral constituents does not exceed that which is often present in ordinary potable waters. They contain for their principal ingredient a little carbonate or sulphate of lime and it is very doubtful whether the whole of this is absorbed into the blood. Most of it probably passes out inertly with the fæces. In fact, springs of this class may practically be considered as equivalent to ordinary drinking water, except that several of them have the advantage of being thermal. Among springs of this kind may be mentioned in our own country the waters of Buxton, Bath and Strathpeffer; in Germany the waters of Gastein, Wildbad, Pfeffers and the Sauerling spring at Carlsbad; in France the waters of Aix-les-Bains, Contrexéville, Vittel and Barèges. Now, there can be no reasonable doubt that the efficacy of these springs has nothing to do with their scanty mineral ingredients, but depends on their watery constituent. They are drunk freely and on an empty stomach. Their action would be to temporarily dilute the blood and lower its percentage of urates and sodium salts. This effect would tend to retard or prevent uratic precipitation and thus give the defective kidneys additional time to overtake their arrears in the task of eliminating uric acid.

It may be asked whether the drinking of water at home would not answer as well as resorting to a mineral spring. The inference from my experiments is that, other things being equal, the beneficial results would be the same. But the "other things" never are equal. It would scarcely be practicable for a man going about his usual business to drink eight or ten tumblers of water on an empty stomach every day for two or three weeks. At a watering-place the visitor has nothing to do except to attend to his "cure." Moreover, in getting away from home, he leaves behind him the worries of his daily life, and experiences the advantage of change of air and scene, with a salutary modification of diet, and he has abundant leisure for out-door exercise. All these collateral influences help to raise the general level of health and quicken the action of the secretory cells. I do not think, therefore, that we can forego the advantages of the time-honoured practice of a visit to a mineral spring. At the same time, a word may be said in favour of a more systematic use of water in the every-day life of the gouty. I have observed that some gouty persons are very sparing in their use of diluents; such persons should be encouraged to be habitually more liberal in this respect. In a few cases it might even be possible to imitate with plain water the regular two or three weeks' course at the spa, and to repeat this course twice or thrice a year as a prophylactic measure. I may observe that in scarcely any complaint is there more need of caution in judging the effects of remedies than in gout. The incidents of the gouty diathesis exhibit a waviness—a flux and reflux—which is highly characteristic. There is a natural tendency for the periods of aggravation to be followed by periods of amendment, and it requires a good deal of sobriety of mind to avoid being made the dupes of our own preconceptions. I believe that the most promising road to an improved therapeutics of gout lies through a fuller and more accurate knowledge of the chemistry of uric acid and the urates, and a more penetrating study of the reactions of these compounds with the fluids and tissues of the body. This is a large and difficult field of inquiry and demands the coöperation of many labourers. That is my apology for the fragmentary character of the present contribution. I shall, however, be quite satisfied if what I have done prove an incentive and a help to other workers in the same field.

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[7] See Peiper in Virchow's Archiv, 1889; and a paper by Rumpf in Centralblatt f. Klin. Med., 1891.

Clinical Lecture

ON AN

EXCEPTIONALLY COMPLICATED CASE OF INGUINAL HERNIA, FOR THE RADICAL CURE OF WHICH BASSINI'S OPERATION WAS PERFORMED.

Delivered at the Middlesex Hospital, May, 1891,

BY J. W. HULKE, F.R.C.S. ENG., F.R.S.,
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GENTLEMEN,—Some of you have lately seen me perform Bassini's operation for the "radical cure" of an inguinal hernia in a patient in Founder ward. As this method has, so far as my knowledge extends, met with little notice here, and as the form of hernia was exceptional, I have taken this case as the subject of to-day's lecture.

The patient, S. R——, aged thirty-five years, a porter, a well-grown, muscular man, was sent into the hospital by his doctor on Jan. 3rd last, in the hope that something might be done for the cure of a very large rupture which had latterly become so troublesome as to compel him to give up work and for the restraint of which he had tried several forms of truss, but none could be borne. He said that the rupture had existed since his childhood, and that its size varied greatly. On stripping him it was at once apparent that the right side of the scrotum was imperfectly developed and that the corresponding testis was absent from it. It was also seen that the right groin was occupied by a conspicuously prominent oblong swelling. The innermost limit of this was slightly to the median side of the spina pubis and the outermost limit was separated by only a slight interval from the anterior superior spinous process of the ilium. This large swelling was in part resonant, showing the presence of intestine; and it also enclosed a soft, solid, pellety mass, plainly omentum. It contained also near its inner end, above and slightly external to the spina pubis, a smooth ovoid body of about the size of a hazel nut, obviously an imperfectly developed testis. We ascertained that this conspicuous swelling, evidently lying superficially in the front of the aponeurotic tendon of the external oblique muscle, was continuous through the external abdominal ring with a deeper swelling, covered by this tendon, filling the inguinal canal; so that the superficial and the deeper parts were loculi of one swelling. Its objective clinical features and its anatomical relations made it evident that this large inguinal swelling was a complete, congenital entero-epiplocele which, in association with imperfect evolution of testis and scrotum, after escaping through the external abdominal ring, had had its downward passage into the scrotum arrested, and had been turned aside in an upward and outward direction along the groin, thus taking approximately the course usually pursued by an enlarging femoral rupture. From this last form of rupture our patient's was immediately distinguished by two ascertained facts: (*a*) the spot where its most conspicuous part became superficial was the external abdominal ring; (*b*) it enclosed the testis.

An oblique inguinal hernia of long standing, through yielding of the inter-columnar fibres and wider separation of the pillars of the external ring, giving this opening a long slit-like form, of which the outer end may approach or even transgress the position of the internal ring, may very exceptionally acquire a deceptive appearance of lying in front of the tendinous aponeurosis, and it is conceivable that in this condition it might present a deceptive resemblance to the superficial part of our patient's rupture. Here, however, the ascertained form of the external ring negatived any such illusion. When occurring in association with a testis detained either within the abdomen or in the inguinal canal or just below the external abdominal ring a rupture on escaping through this aperture usually, as noticed already, descends into the scrotum, and it only exceptionally takes the course it pursued in our patient. Still more exceptionally does the rupture enlarge in both directions, as in an instance which some years ago I communicated to the Royal Medical and Chirurgical Society, where, in association with retained testes, on both sides one part of the hernial sac passed downwards into the scrotum, whilst another part of the sac had travelled upwards and outwards upon the aponeurosis of the external oblique muscle nearly to the anterior superior spine of the ilium.

Looking at the subject of hernia from your present standpoint—as students—it will probably astonish most of you to hear that operations for the "radical cure" preceded by several centuries those for the relief of strangulation. The reason of this is not far to seek. In early times, when efficient trusses such as we now have were unknown and the only supports were bags slung by a baldrick across the shoulders, which whilst they in some measure eased the painful dragging of an increasing scrotal rupture did not make any pressure on the abdominal openings through which the viscera escaped from the abdomen, very large ruptures must have then been as common as they are still in countries where surgical culture is yet at a primitive level. But in olden times, when a man was chiefly valued for his "thews and sinews," if he became incapable and he could neither bear arms nor do heavy agricultural work, he was apt to be regarded by his community as a useless encumbrance, and his lot was so sad that he was willing to incur any risk and pain for a prospect of relief, and parents were ready to subject their ruptured children to any travelling charlatan who promised a cure. Strangulation, an incident of relatively infrequent occurrence, was regarded as a desperate disorder beyond help from leechcraft. For our own country this is shown by the "bills of mortality" of old London, in which strangulated hernia is entered under the terribly significant name "Miserere."

So numerous are the surgical methods devised in the last two decades of this century for the "radical cure" of hernia and so preponderant are the advantages claimed for each by its originator, that the young and as yet inexperienced surgeon may well feel some bewilderment when first he approaches this subject practically. Here a principle laid down by the late Professor John Wood will help to guide his choice—viz., to discard every method which does not aim at closing the neck of the sac and at reducing the internal abdominal ring to the extent sufficient only for the passage of the spermatic cord. Both these desiderata are very certainly effected by Bassini's method, which also strengthens the outer part of the posterior wall of the inguinal canal, where naturally it is weaker; and this it does with, I think, greater precision than is attainable by other methods approximately or strictly subcutaneous. My choice of Bassini's method for this particular case was largely influenced by the fact that we had to deal with a complicated form of hernia, which made preferable a method of operating that permitted each step to be clearly seen and precisely controlled. If you will now follow the extract I am about to read from the dresser's notebook you will be able to realise the successive steps of the operation.

On Jan. 7th, the patient having been anæsthetised, an incision from four inches and a half to five inches long was made parallel to and a short distance above Poupart's ligament, in the longest axis of the superficial part of the rupture, and the tissues were divided down to the sac. This was next detached from the aponeurosis of the external oblique muscle and temporarily placed aside out of the way between a couple of flat, warm, moist sponges. The aponeurotic tendon was then split in the line of the external wound from the external abdominal ring outwards along the whole length of the inguinal canal, so that by separating with retractors the edges of the split the inguinal part of the hernial sac was exposed up to its very neck at the internal abdominal ring. The sac itself was now slit open, the bowel contained in it was reduced, and the omentum, adherent and thickened, having been freed, was tied at the level of the internal ring, then cut through below the ligature and the stump returned into the abdomen. The sac was next carefully completely isolated from the other elements of the cord, tied circularly at its neck and then cut away, a small part of it only being reserved for the construction of a tunica vaginalis by sewing its edges together so as to form a small pouch for the testis. This done, a subcutaneous incision was prolonged from the inner end of the inguinal wound to the bottom of the scrotum so as to make a bed for the testis, which was pushed down into it and fixed there with a stitch. The outer border of the conjoined tendon and the fleshy lower borders of the internal oblique and transverse abdominal muscles were then drawn down and attached to the deep aspect of Poupart's ligament by a series of closely set buried sutures so as to closely embrace the cord at its passage through the internal ring and to cover the stump formed by the circularly tied neck of the sac. Next the edges of the split in the aponeurosis of the external abdominal oblique muscle were sutured together; and lastly the integument incision was similarly closed. It is scarcely necessary to say that throughout the operation and afterwards scrupulous attention to antisepsis was observed. Notwithstanding this, on Jan. 15th (one week after the date of the operation) some tension of the wound was apparent. For this two stitches were cut which allowed a free serous oozing. Four days later suppuration was present. This spread superficially a little way below the groin on to the thigh and above towards the flank, necessitating counter-openings and protracting the patient's recovery so that he did not leave the hospital until April 2nd. For greater security he was recommended to wear a light truss and he was directed to return to the hospital if he felt any inconvenience.

The patient returned in January of this year (1892) to ask if he might safely lay aside the truss. This he was told he might do except when engaged in very laborious work. The scar appeared sound, and it did not show any sign of bulging when he strained or coughed. The testis had not remained in the bottom of the scrotum, but it was well below the external abdominal ring. Here the presence of the large subcutaneous inguinal loculus of the sac, enclosing the testis, which was sessile and not as occasionally suspended by a mesorchium, complicated and protracted the operation, making it more severe than it would have been under ordinary circumstances. Its duration might have been shortened by removing the testis, but this the patient was unwilling to lose, though a functionally useless organ.

So far as the experience of a single case warrants me in forming an opinion, Bassini's method is more severe than some others, and I am inclined to reserve it for exceptional cases.

PERFORATION OF THE INTESTINE IN PHTHISIS.

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ALTHOUGH tuberculous ulceration of the intestine is such a common complication of pulmonary phthisis its various modes of termination appear to have received comparatively little attention. The majority of the standard works on medicine and pathology are content to dismiss the question of perforation with the statement that complete rupture of the intestinal wall is a possible but unusual result of its tuberculous affection, while those that deal with the subject in greater detail differ considerably among themselves, both as to the frequency with which perforation is apt to ensue and the clinical symptoms which are supposed to portray the accident. Wilks and Moxon[1] state that complete perforation is rarely met with and they can record but three instances in point, in one of which the appendix vermiformis was the seat of the lesion. On the other hand, Lebert[2] found that perforation occurred in 3 per cent. and Willigk[3] in 5 per cent. of the cases they had observed, while Leube[4] had noted it but twice among several hundred cases. Habershon[5] found that among 55 cases of acute peritonitis due to perforation of the gut, only 4 resulted from tuberculous ulceration. Grawitz,[6] in his analysis of 857 cases of peritonitis, states that 20, or 2·3 per cent., were the direct consequence of tuberculous disease of the bowel. With regard to the actual results of perforation of the intestine the various authors are at still greater variance. Spillmann,[7] in his excellent treatise on gastro-intestinal tuberculosis, records several instances where death had occurred from perforation of a tuberculous ulcer, and, while he infers that local abscess is not an uncommon result of the accident, he asserts that extravasation of the intestinal contents into the general cavity of the peritoneum is excessively rare. Theodore Williams,[8] on the other hand, remarks that acute general peritonitis is the most frequent result of perforation of the intestine occurring in the course of chronic phthisis. Rindfleisch[9] lays special stress upon the frequency with which various portions of the small intestine are apt to ulcerate into one another and to establish irregular channels for the circulation of their contents. According to Orth,[10] the vermiform appendix is a favourite spot for tuberculous disease, and perforation in this position is very liable to be followed by the formation of a local abscess and subsequent fistula. In view of these conflicting statements it appeared to us that a further investigation into the subject might prove of interest and perhaps of some practical value. We have accordingly examined the records of 2000 necropsies on cases of phthisis performed at the Brompton Hospital for Consumption and would here gratefully acknowledge the kindness of the senior medical staff in permitting us thus to utilise the records of their cases.

Tuberculous ulceration of the intestine is rarely met with as a primary disease in adults, although in children it is by no means uncommon. In the great majority of cases the disease is secondary to pulmonary phthisis and the frequency with which the two conditions are associated has been the subject of some controversy. Louis[11] found evidences of ulceration in about four-fifths of all his cases; Bayle in 67 per cent.;[12] while Lebert[13] states that the intestinal complication existed in 67 per cent. of his cases in Breslau and in only 39 per cent. of those examined by him in Zurich. Willigk[14] found the intestine affected in 49·6 per cent. of his cases, and more recently Eisenhardt[15] discovered a similar lesion in 56·6 per cent. of the cases of phthisis examined at München. Our own conclusions tally closely with those of the two latter observers, since we found the intestine was stated to have been the seat of ulceration 500 times in 883 cases, or in the proportion of 56·6 per cent. From these facts it would appear that while the absolute frequency with which the bowel is diseased in cases of pulmonary phthisis is apt to vary in different countries, as a general rule it can be detected in rather more than one half of the cases. All writers are agreed that the ileum, especially its lower portion, is the region of the gut most frequently attacked by the tuberculous processes and among our 500 cases of ulceration the ileo-cæcal region was found to be affected in 85 per cent.: while in 9·6 per cent. it proved to be the only portion of the intestine which showed any evidence of the disease. From this spot the liability to the tuberculous affection diminishes steadily as we proceed in either direction towards the extremities of the bowel and consequently we find that the duodenum and rectum were never diseased unless the other portions of the tract were already in an advanced state of ulceration. Thus among the cases already alluded to ulceration was noted to have been present in the duodenum in 3·4 per cent., in the jejunum in 28 per cent., in the ascending colon in 51·4 per cent., in the transverse portion in 30·6 per cent., in the descending colon in 21 per cent., in the sigmoid flexure in 13·5 per cent. and in the rectum in 14·1 per cent.

Attention has often been drawn to the fact that the vermiform appendix is peculiarly liable to exhibit patches of superficial ulceration in cases of chronic phthisis. Unfortunately, the cæcal appendage appears to have so frequently escaped examination that we are unable to state from our notes with any degree of certainty the relative frequency with which this portion of the bowel was affected. It is, however, quite an exception to find the appendix free from disease when the ileo-cæcal region is in a state of tuberculous ulceration. In seventeen instances it was expressly stated that the appendix was the only portion of the intestinal tract that showed any evidence of ulceration; and the question naturally arises whether this morbid phenomenon was of a simple or tuberculous nature. In every case the ulceration was multiple, and no concretion was noted to have been present. In two cases of a similar nature which have come under our own observation the superficial character of the disease appeared to denote a catarrhal rather than a specific origin, but on submitting the tissues to microscopic examination all doubt as to the true nature of the disease was set at rest by the discovery of numerous tubercle bacilli. Without wishing to infer that all cases of ulceration of the appendix associated with pulmonary phthisis are necessarily tuberculous in their nature, we would submit that this portion of the bowel, owing to the large quantity of lymphoid tissue in its walls, its abundant blood-supply and the comparative stagnation of its contents, is peculiarly liable to fall a victim to tuberculous infection, and that the subsequent ulceration may closely simulate in its macroscopic appearances the results of simple catarrh.

Among our 2000 necropsies we find twenty-five instances in which perforation of the intestine had occurred as the result of the tuberculous ulceration. These figures would appear to indicate that the accident in question only occurs in about 1·2 per cent. of all cases of phthisis, a result which, although it closely agrees with the statements of Dittrich and Louis, nevertheless falls far short of the estimations made by other observers. But these discrepancies are easily accounted for when an inquiry is made into the exact meaning which various writers have attached to the term "perforation." It is well known that advanced tuberculous ulceration of the intestine is invariably attended by a considerable degree of local peritonitis, and it consequently happens that, owing to the firm adhesions which form round the floor of an ulcer actual perforation may occur without giving rise to fæcal extravasation and subsequent peritonitis.

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[1] Pathological Anatomy, p. 414.

[2] Klinik der Brustkrankheiten, 1874.

[3] Prager Vierteljahrschrift, 18[illegible].

[4] Quoted by Spillmann: La Tuberculisation du Tube Digestif, p. 110.

[5] Transactions of the Medical and Chirurgical Society, vol. xliii., [illegible], p. 5.

[6] Charité Annalen, 1881. Also Louis observed one case of perforation among 120 necropsies on phthisis, Dittrich 5 in 4[illegible], Wilson Fox 3 in 77, and King Chambers in about 7 per cent. of all cases of ulceration.

[7] Op. cit.

[8] Pulmonary Consumption, p. 1[illegible], 1887.

[9] Pathological Histology, New Sydenham Society's Transactions, p. 412.

[10] Lehrbuch der Path. Anat., I., p. 8[illegible].

[11] Phthisis, p. 74: Sydenham Society's Transactions.

[12] Quoted by Williams, op. cit.

[13] Ibid.

[14] Op. cit.

[15] Inaug. Dissert., München, 1890.

Thus, in a curious case reported by Lepelletier,[16] a perforating ulcer in the ileum had contracted adhesions with an enlarged and caseous mesenteric gland which eventually came to fit like a plug into the aperture in the wall of the bowel. Perforation, therefore, may be of two kinds, partial or complete, the evidences of the former being latent and often difficult to ascertain without a careful search, while the latter attracts attention immediately the abdomen is opened, from the striking evidences of inflammation in the serous membrane. For these reasons it is obvious that those statistics which, like our own, are founded upon the complete form of the disease, do not represent by any means the absolute frequency with which tuberculous ulceration is apt to terminate in perforation of the bowel. At the lowest computation partial or complete perforation probably occurs in 5 per cent. of all cases of chronic phthisis, or, in other words, in 10 per cent. of the cases where ulceration is present. These facts by no means corroborate the statement made in text-books to the effect that typhoid ulceration of the intestine is far more liable to end in perforation than the tuberculous type of the disease. If we believe that every case of typhoid fever is accompanied by an intestinal lesion and that only 10 per cent. of the entire number of deaths are the result of perforation of the bowel, then even allowing the primary disease to be attended by the high mortality of 20 per cent. we find that only 2 per cent. of the cases of typhoid ulceration terminate in perforation, instead of 10 per cent. as in the case of the tuberculous lesion. Perforation may occur in any portion of the intestinal tract and at the outset it would seem probable that that region of the bowel which is most frequently attacked by ulceration would also be most liable to perforation. But a glance at the figures relative to this point will show that the surmise is only partially borne out by fact. It is true that the ileum is the favourite site both for ulceration and rupture; but, on the other hand, the cæcum, which is almost twice as often affected as the jejunum, is much more rarely the seat of perforation than the smaller intestine. Again, tuberculous ulceration is infinitely more common in the ascending colon than in the duodenum; nevertheless we find that while perforation in the former is excessively rare, the same lesion in the latter is attended by more danger to life than in any other spot in the whole digestive tract.

In the following table a contrast is offered between the tendency exhibited by the various portions of the intestinal tract to ulceration and perforation respectively. The first two columns are derived from an analysis of 500 cases of tuberculous disease of the intestine, while the remainder has been compiled from a comparison of the total number of cases of ulceration with the various instances of perforation occurring in the same anatomical region. It will therefore be readily understood that although the first half of the table is fairly accurate the latter half can only convey a general idea, as it cannot lay claim to any great degree of accuracy.

Table to Illustrate the Relative Frequency with which Tuberculous Ulceration and Perforation occur in the Different Regions of the Intestine.

Region.	Percentage of ulceration.	Sole seat of disease.	Percentage of ulceration terminating in perforation.	Percentage of acute peritonitis.	Percentage of fæcal abscess.
Duodenum	3·4	—	10·0	75·0	25·0
Jejunum	23·0	1·4	0·53	65·0	35·0
Ileum	60·2	4·4	1·1	76·0	24·0
Ileo-cæcal (last foot of ileum and contiguous portion of cæcum) . .	85·0	9·6	—	—	—
Cæcum	—	—	0·12	17·0	83·0
Appendix	(50·0)	(3·8)	(0·1)	—	—
Ascending colon ..	51·4	1·8	0·08	—	—
Transverse colon ..	30·6	1·0	—	—	—
Descending colon ..	21·0	—	—	—	—
Sigmoid	13·5	—	0·37	—	—
Rectum . ..	14·1	—	0·34	—	—

Of the 25 instances of perforation which occur among our series of post-mortem examinations 15 terminated in acute general peritonitis and the remaining 10 by the formation of a local abscess. Since this number is but small we have collected an additional 28 cases from various sources, making in all a total of 53. These have been divided for the purpose of analysis into two classes, and the general features of the cases at our dispoṡal will be considered under the headings "acute general peritonitis" and "fæcal abscess."

1. *Acute Peritonitis.*—This class includes 34 cases, in 28 of which a single ulcer had perforated into the cavity of the peritoneum, while in the remaining 6 a previous lesion had occurred and given rise to a fæcal abscess. The average age at the time of death was twenty-nine, but in those cases where the appendix was the seat of the disease the average age was only seventeen. Men were more frequently the subject of this affection than women, in the proportion of nearly 2 to 1. Among the entire number no fewer than 27 originated in disease of the small intestine, the larger portion of the bowel being only affected in 7 cases, and in 4 of these the vermiform appendix proved to be the seat of the fatal perforation. The greater mobility of the small intestines and the relative thinness of their walls afford an ample explanation for the more frequent occurrence of perforation in this region of the gut, while the fact that acute peritonitis should be such a frequent result of the accident is readily understood when it is mentioned that the various coils receive an entire investment from the peritoneum, and that their contents, being of a liquid nature, can readily diffuse over the whole surface of the serous membrane. Of the 27 cases situated in the small gut 3 occurred in the duodenum, 3 in the jejunum and 21 in the ileum, while those due to disease of the large intestine comprised 4 perforations of the appendix, 1 of the cæcum and 1 in each of the ascending and transverse portions of the colon. Although the reports in many of the cases fail to state the exact position of the fatal lesion, there are still a few facts which serve to throw some light upon the various causes which predispose to perforation. It is well known that simple ulceration of the duodenum is almost invariably situated within a few inches of the pylorus and is very liable to terminate in fatal peritonitis. Now it has already been mentioned that tuberculous ulceration of the duodenum is exceedingly rare, and that when it does occur the disease is more common in the lower portion than in the neighbourhood of the pylorus. In 4 cases where perforation took place in this part of the intestine no fewer than 3 were situated within two inches of the pyloric orifice, and in each case acute general peritonitis ensued upon the accident. We are accordingly forced to believe that although a tuberculous ulceration of the first portion of the duodenum is of very unusual occurrence, the disease is in this position fraught with infinitely greater danger to life than when it attacks any other portion of the intestinal tract; a result which is probably due to the corrosive action of the gastric juice on the mucous membrane when in a state of disease. Of all the causes predisposing to perforation mechanical strain on the walls of the bowel is perhaps the most important. It is a common observation that rupture is particularly liable to occur when the ulcer occupies a spot where the gut is habitually bent or kinked; and there can be little doubt that the hinge-like movement which obtains at such a bend in the coil must exert a very deleterious influence upon the wall of the intestine, already weakened by disease. Perhaps the most interesting feature in this connexion is the part played by a permanent increase of tension in the fluid contents of the bowel. Every pathologist is aware how easy it is to blow out the base of an ulcer by passing through the gut a stream of water at a high pressure; the probability of rupture depending directly upon the thinness of the floor of the ulcer and the pressure of the aqueous stream. Now in 6 cases perforation is said to have occurred within twelve inches of the ileo-cæcal valve, and in no less than 5 of these the valve itself is described as much thickened and ulcerated, with its diameter considerably narrowed. In another case, where perforation took place in the ascending colon, it was noted that the bowel was considerably dilated owing to the presence of a tuberculous stricture four inches lower down. It is probable therefore that under certain conditions the progress of the ulceration may lead to considerable narrowing of the diameter of the bowel and the increase of tension thus induced may relieve itself in the direction of the peritoneal cavity.

As a general rule perforation only ensues upon extensive destruction of the intestinal tract by the tuberculous processes; but among our cases there occur one or two exceptions to this rule. Thus in one instance a single ulcer the size of an almond had formed in the ileum and death had resulted from rupture of its floor. In another case fatal peritonitis owed its origin to destruction of the vermiform appendix, which proved to be the only portion of the bowel affected by tuberculous ulceration. Although perforation usually arises from a progressive destruction of the wall of the gut from within outwards it appears that under certain conditions it may occur in a totally different manner. In two cases the disease is stated to have commenced in the peritoneal and subperitoneal tissues, extending inwards toward the lumen of the bowel in the form of hemispherical masses covered by the submucous and mucous coats of the intestine. Ulceration but rarely occurred over the summits of these tuberculous tumuli; but in both the instances under notice the caseous material had undergone softening at one spot, and eventually discharged itself in either direction, and so had given rise to escape of fæcal matter into the cavity of the peritoneum. In another case an abscess had arisen in connexion with tuberculous mischief of the right Fallopian tube, and discharged itself through the base of an intestinal ulcer; the sudden irruption of the intestinal contents into the sac had caused its walls to give way and lighted up an attack of peritonitis. In one remarkable instance a round worm had burrowed its way through the floor of an ulcer, and its exit into the general cavity of the peritoneum had been followed by a fatal stream of fæcal material. It has already been mentioned that in six cases a previous perforation had given rise to the formation of a local abscess: and an examination of the locality of these abscesses revealed the fact that in five instances they were connected with the same portion of the bowel which subsequently became the site of the fatal lesion, while in the remaining case a chronic abscess round the cæcum had been followed by a fatal perforation of the duodenum. In all the cases at present under notice fæcal matter was discovered in the peritoneal cavity at the necropsy, the intensity of the secondary inflammation in the serous membrane varying according to the length of time which had elapsed between the onset of the perforation and the death of the patient. In three cases the peritoneum was found to be in a state of general tuberculous disease.

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[16] Bulletins de la Société Anatomique, p. 253, 1846.

Clinical.—The symptoms arising from perforation of the intestine are usually so characteristic in their nature that it might easily be supposed that the rupture of a tuberculous ulcer in a case of chronic phthisis would meet with certain and instant recognition. But a comparison of the clinical and post-mortem records of these cases shows only too clearly how readily the disease may escape notice altogether, or its symptoms be confounded with those arising from less important conditions. We find from the clinical histories of the foregoing cases that in nearly three-fourths of the total number the fatal lesion was accompanied by distinct premonitory symptoms. The most characteristic of these was severe abdominal pain, usually coming on from twelve hours to three days before actual perforation took place, but in one instance lasting for nearly a fortnight. The pain was referred by the patient to the epigastrium or right iliac region, and was increased by pressure or muscular effort; in many it appeared to be rendered more severe by the ingestion of food. Vomiting, often of a bilious type, was a constant accompaniment of this condition and sometimes proved so severe as to prevent the administration of food by the mouth. The temperature usually showed a slight tendency to rise, the pulse was quickened, and in a few cases the diarrhœa, which had previously resisted all treatment, either diminished or ceased entirely. In a few instances the abdomen was noticed to have become distended and hyper-resonant on percussion. Such premonitory symptoms are important, as they are obviously dependent upon the condition of local peritonitis which so invariably precedes the final catastrophe, and their early recognition may prove of value by affording an indication for preventive treatment.

Actual perforation is usually sudden in its onset and the symptoms to which it gives rise are then extremely characteristic. In three instances the accident occurred while the patient was straining at stool, in two others it took place as the patient was walking about, while in another it appears to have followed directly upon a severe attack of retching. In each case a sudden and severe pain was complained of, sometimes situated in the umbilical region, but more often referred to that part of the abdomen which contained the diseased organs. In many cases this sudden onset of pain was accompanied by a sensation of an internal snap, and the patient dwelt upon the fact that something had given way in his abdomen. Vomiting and collapse quickly followed these initial symptoms, the features rapidly becoming shrunken and blue and the surface of the body covered with a cold sweat; the pupils dilated, the pulse became quick and feeble and the mental depression pronounced. In every case the temperature exhibited a sudden and characteristic fall to a point considerably below the normal. If diarrhœa had existed before the accident it now entirely disappeared. When death resulted from collapse it usually occurred within three to seven hours of the accident, but in some life was only prolonged for about an hour and a half. In those cases that survived this stage the symptoms of shock were gradually replaced by those of an inflammatory affection of the peritoneum; the temperature gradually recovered itself and rose somewhat above the normal; the pulse grew wiry with an increased rapidity of beat; vomiting became urgent and the abdomen exhibited all the characters indicative of diffuse peritonitis. Death finally ensued from cardiac failure after being postponed for thirty-six or forty-eight hours. It is clear, therefore, that perforation may bring about a fatal result in two different ways—by direct shock or from acute general peritonitis; and it is worthy of notice that the immediate danger from shock bore a definite relation to the position and size of the perforation; for the higher the site of the lesion in the intestine and the more rapid the subsequent extravasation the more profound and quickly fatal proved the subsequent collapse.

The train of symptoms indicated in the foregoing sketch are common to all cases of perforation of the gastro-intestinal tract irrespective of its cause, and their supervention in a case of chronic phthisis would admit of but little doubt being entertained as to the exact nature of the complication. But under certain conditions it is found that rupture of a tuberculous ulcer may be accompanied by symptoms of the most equivocal nature, and it is to such abnormal varieties that we would venture to draw special attention. In nearly one-fourth of the entire number of cases the patient appeared to succumb from gradual exhaustion, and the autopsy, which revealed that death had resulted from purulent peritonitis following intestinal perforation, afforded a complete surprise to those who had watched the progress of the case. The question therefore arises why the same lesion should in some instances be followed by such a characteristic and severe train of symptoms while in others its effects are hardly to be distinguished from those of the primary disease, and although it kills, why it should do so in such an unostentatious manner. The answer appears to be that in order for fæcal extravasation to be accompanied by clinical phenomena of a pronounced type it is requisite that both the peripheral and central portions of the nervous system should be capable of immediate reaction to a sudden stimulus. But if either the central nervous system or the surface of the serous membrane be previously deprived of its natural irritability from exhaustion or disease, then the symptoms of shock and subsequent inflammation, which under ordinary circumstances are so characteristic of perforation of the bowel, will be either indifferently developed or even entirely absent.

In looking over the cases which presented but ill-defined symptoms of peritonitis, we find they are capable of being arranged in two divisions according as the central nervous system or peritoneum appear to have been primarily at fault. In the first case the symptoms of the accident were unable to exhibit themselves on account of being masked by the profoundly asthenic condition of the nervous system, while in the other they remained latent during life, because the surface of the peritoneum had been deprived of its natural irritability owing to its previous invasion by miliary tuberculosis. That acute general peritonitis may supervene during the latter stages of chronic phthisis without arousing any suspicion of its presence in the mind of the physician has been the subject of frequent remark, and of the difficulty which such cases of masked peritonitis present in diagnosis the following offers a fair illustration. A youth who was the subject of advanced phthisis complained of diarrhœa, accompanied by occasional attacks of nausea and pain in the right iliac region of the abdomen. A few days after admission into hospital and without any marked accession of pain he commenced to vomit and was soon unable to retain any nourishment in the stomach. The temperature which had ranged about 101° F. showed at first but little variation, but afterwards gradually fell with the rapid progress of exhaustion. No complaint was made of abdominal pain, and on examination nothing abnormal could be detected, with the exception of some slight general tenderness on pressure. The diarrhœa appeared to increase in severity rather than to diminish. The vomiting, however, proved intractable, the pulse grew quicker and weaker, the tongue became dry and brown, sordes collected about the teeth and lips, and the patient succumbed in four days to a progressive asthenia. The persistent vomiting and diarrhœa without collapse seemed to indicate an inflammatory affection of the gastro-intestinal tract, but the necropsy proved that death had really resulted from general purulent peritonitis, and that the rupture of a tuberculous ulcer in the vermiform appendix had allowed fæcal matter to escape into the cavity of the peritoneum. The clinical records of the remaining cases afford but little help in formulating any rules for the diagnosis of this form of the disease. Abdominal pain may be present throughout the illness, but its onset is never sudden or accompanied by collapse, and indeed the general tenderness over the whole of the abdomen seldom exceeds that which arises from the presence of intestinal ulceration. Occasionally the abdomen may become distended and tympanitic on percussion, but in the majority of our cases these abnormal signs appear to have been absent. Vomiting is always the prominent feature, though it varies considerably in its severity in different cases. Unlike the more sthenic variety of the disease, the symptom of constipation is often absent and in not a few instances, as in the one already referred to, diarrhœa proved exceedingly troublesome. The temperature varies in different cases, sometimes showing an inclination to rise above its former point, but more often gradually declining with the approach of death. The pulse exhibits a progressive quickening with enfeeblement of its beat, the first sound of the heart soon becomes toneless or inaudible, the tongue appears dry and brown with sordes about the teeth, and the face often acquires that peculiar drawn and sunken expression so suggestive of acute abdominal disease. The exact duration of life in these cases is difficult to estimate owing to the absence of any positive data concerning the onset of the perforation, but in many instances death seems to have been delayed from five to nine days after the vomiting commenced.

With regard to that variety of symptomless peritonitis which we have alluded to as "latent" the cases at our disposal can only furnish us with three instances in point. In each there had been a long-continued complaint of abdominal pain and diarrhœa, and in two cases the existence of fluid in the peritoneal cavity had been diagnosed some days prior to death. The patient appeared suddenly to grow worse without any adequate cause being discovered, but after death it was found that chronic tuberculous disease of the peritoneum was associated with fæcal extravasation arising from perforation of the bowel, which from the appearance it presented was obviously a day or two old. It is now a well-recognised fact that tuberculous disease of the peritoneum renders that sensitive structure proof against many sources of irritation which, under normal conditions, would excite intense inflammation Consequently it may be taken for granted that when once the serous membrane has fallen a victim to tuberculous disease even fæcal extravasation will encounter some difficulty in exciting acute inflammation of its structure, while from the impaired sensibility of the serous surface the accident will also fail to produce that sudden reflex inhibition of the vital organs which is commonly termed "shock." Although the notes on these cases are extremely scanty it would appear that the sudden supervention of intractable vomiting and rapid asthenia in a case of tuberculous peritonitis with intestinal ulceration, the progress of which had hitherto been somewhat slow, should suggest the possibility of perforation having occurred.

Symptoms of acute peritonitis not unfrequently ensue during the course of chronic phthisis totally independent of perforation of the bowel, and it is therefore important to recognise the various causes from which they may arise. In the first place, local peritonitis around the intestinal ulcers may prove so severe as to closely simulate in its symptoms the more diffuse forms of inflammation; and in one case which we recently had the opportunity of watching but little doubt was entertained that actual perforation had occurred. The patient, however, lived three weeks and finally succumbed to the pulmonary disease, while the necropsy demonstrated the fact that the abdominal symptoms entirely owed their origin to the existence of two inflamed ulcers in the jejunum. But in such cases as these the onset of the pain is much less sudden than when due to perforation. Collapse, with a sudden fall of temperature, is absent, and the face fails to exhibit the peculiar expression indicative of fatal mischief in the abdomen. It should also be remembered that actual perforation is of extremely rare occurrence and the subsequent peritonitis invariably terminates fatally within three days.

Secondly, during the same period of time in which our cases of genuine perforation occurred we find the records of nineteen other cases where death had resulted from purulent peritonitis, for which neither perforation of the bowel, tuberculous disease of the serous membrane, nor renal mischief could satisfactorily account. In each instance the bases of the intestinal ulcers were much inflamed, and although it is possible that in a few cases a small perforation may have given rise to the condition without its presence being detected at the necropsy. But the clinical histories of these cases make no mention of a sudden onset of pain attended by collapse, and the absence of this important diagnostic sign is almost conclusive evidence against perforation having occurred in any case. It is probable, therefore, that the condition of general peritonitis was the result of extension by contiguity. Lastly, it is possible that acute tuberculous peritonitis might at an early stage be confounded with an inflammatory affection of the peritoneum arising from the intestinal lesion. In this disease, however, initial collapse is entirely absent, the abdominal pain is more gradual in its onset and less severe, and fever is the rule, not the exception. Here, again, the comparative frequency of the two diseases should be borne in mind, for we find that while tuberculous peritonitis existed in nearly 4 per cent. of all the cases of phthisis which came to a necropsy, acute peritonitis resulting from perforation only occurred 15 times in 2000.

(To be concluded.)

A PRELIMINARY NOTE ON FLEXION AND VERSION OF THE UTERUS.

By JAMES OLIVER, M.D., F.R.S. Edin., M.R.C.P. Lond.

Our text-books on diseases of women, it is true, devote a large amount of space to the consideration of the various flexions and versions of the uterus; that, however, they impart any true knowledge regarding the manner in which these alterations are produced is extremely doubtful. The mere fact that these variations have been recognised for many generations is no criterion. They are apparent and obvious changes, and no high degree of intelligence or great amount of training is requisite for their detection; and had they failed from the earliest period in the history of medicine to attract attention, we should indeed have been justified in expressing the most profound astonishment. The majority of practitioners and gynæcologists even of the present day are, I regret to say, contented to know that they possess that aptitude which enables them to detect alterations in the configuration or position of the uterus—alterations which they cannot, in fact, help detecting. A man endowed with ordinary sight, in looking towards the heavens on a clear night, recognises the stars which stud the azure vault, but without some special training he is unable to determine the distances and magnitudes and courses of the planetary orbs as they roll along the ethereal plains, and these facts are only reached and disclosed by means of an intellectual effort. The various pessaries which from time to time have been devised for the purpose, if possible, of restoring the uterus to and maintaining it in its recognised form and position are carefully enumerated and each is usually described with much exactness. The good effects produced by the application and adaptation of these mechanical agents are duly paraded, but the panegyrist leaves the imagination to picture to itself the manner in which these so-called supports can affect the configuration or position of the uterus and restore this organ to its natural shape and location. "An unreasoned philosophy, even though true, carries no guarantee of its truth. It may be true, but it cannot be certain, because all certainty depends on rigorous evidence, on strict demonstrative proof. Therefore no certainty can attach to the conclusions of an unreasoned philosophy."

Before directing our attention to the consideration of the changes which produce an alteration in the configuration or position of the uterus let me discuss, first of all, the following propositions, which, says Thomas,[1] "present the views upon the subject of versions and flexions which will be found to bear the test of experience." 1. "Versions and flexions of the womb may, but very rarely do, exist without causing any symptoms, for in themselves they do not constitute disease." The logic of this precept is strange. On authority, but not by reason, we are asked to believe that versions and flexions do not constitute disease and that consequently, although they may not produce symptoms, they are nevertheless much more likely to give rise to discomfort and prove troublesome. Are we to infer that the structural changes which result in the production of these displacements do not constitute disease? If not, they must then be normal variations. No process of reasoning will, I fear, lead us to this conclusion. They are most assuredly the result of some derangement, physical or chemical. Judging alone from the manner in which we are recommended to treat these displacements we are compelled to admit that the alteration, whether in configuration or in position, is in reality the disease. By the application of what "they" term a well-adjusted pessary the uterus will be restored to its natural shape and situation. Now everyone will admit that a system which is reasoned is of some value even although it may not be true, whereas haphazard statements are absolutely worthless, and, worse than this, they are misleading. 2. "By interfering with the escape of menstrual blood, by disordering uterine circulation and keeping up hyperæmia, by causing pressure and friction from contact with surrounding parts, and by creating a barrier to the entrance of seminal fluid, they become as a rule of great importance and require special attention." We have no evidence that flexions or versions interfere with the escape of the menstrual blood. Many women suffer more or less during menstruation, and although we may occasionally in such detect some alteration in the configuration or position of the uterus, it does not necessarily follow that the pain is due to an interference with the escape of blood. Frequently we find women with decided flexions and versions who suffer no discomfort whatever during menstruation. We are too apt to jump at conclusions regarding cause and effect, and for this reason statistics are apt to prove fallacious. We have no evidence either that these variations disorder the circulation. Those who assume that the circulation is disturbed forget apparently that they are dealing with organic structures, with tissues which are endowed with a large amount of power of adaptation to circumstances. In the female dugong we have a uterus which presents a peculiar corkscrew shape, but it is perfectly evident that the circulation of the organ is not thereby disordered. If flexion is due to want of tone in the uterus, then the vessels will not receive that amount of support from the tissues and the blood will consequently pass more sluggishly. In this case, however, the circulation is disturbed not by the flexion, but by the cause of the flexion; the disturbance is nevertheless augmented by the configuration or position of the uterus. In the animal and vegetable kingdoms we have abundant proof that mere shape does not interfere with the passage of that fluid which nourishes the tissues. The tendrils and branches of plants perform many gyrations and assume a variety of shapes without the vascular system in any part of its course being necessarily disturbed. Again, the influence of pressure and friction is undoubtedly exaggerated, for everyday we find new growths developing in the pelvis, arising, it may be, from the uterus or ovaries and attaining a great size, and yet the pressure exercised by these produces little or no discomfort unless they become confined, when the increased tension necessarily produces pressure symptoms. It is alleged, too, that flexions and versions are a cause of sterility, as they create a barrier to the entrance of the seminal fluid. If we examine the genital organs of the females of many of the lower animals we shall observe that greater barriers to the entrance of seminal fluid exist naturally in many of them. The spermatozoa appear to experience no difficulty whatever in effecting an entrance into the corkscrew-shaped uterus of the dugong. In the cervix and body of the uterus of the sheep and goat we find groups of laminæ presenting the appearance of a number of successive ora tincæ, and many no doubt would be disposed to affirm that these irregularities in the canal would hinder the progression of the spermatozoa. A careful study of the various methods whereby the process of fecundation is carried on in plants and animals and a close examination of the genital tract in mammalia compel us to admit that the spermatozoa and ova are attracted towards each other and that they do not meet and coalesce simply because they happen to be traversing the same passage. It sometimes happens that this elective affinity is absent and fecundation is then impossible. In the case of fishes, for example, it is this elective affinity—this attraction between the ova and spermatozoa—which keeps the species pure; without this influence hybrids would abound. In the case of the ornithorhynchus we find a cervix uteri located on each side of the roof of the uro-genital canal. Each cervix presents two orifices, one—the lower—communicates with the ureter, whilst the other—the upper—leads to the body of the uterus. If, therefore, the process of fertilisation depended simply upon chance we would be justified in asserting because of the structural arrangement that the female ornithorhynchus would seldom become pregnant, for the spermatozoa would tend to enter the first opening which leads to the ureter, and would thus fail in their mission. It is evident, however, that the spermatozoa seldom, if ever, enter this opening, but are attracted towards that opening which leads to the uterus and ovary. In the macropus major—a marsupial animal—we find also a structural arrangement of such a character that if the meeting of the spermatozoa and ova depended purely upon chance the species would run a fair prospect of being speedily extinguished. 3. "Often being the results, as they are sometimes the causes, of uterine and peri-uterine diseases, their treatment should be combined with efforts at the alleviation of these states." There can be no doubt that the displacements of the uterus are the result of intrinsic or extrinsic changes, but I am fully convinced that if greater caution were exercised in treating these malpositions and altered configurations of the uterus many women would be freed from a great deal of suffering, and many who have become invalided in consequence of a too vigorous treatment would pass through life more comfortably.

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THE

RADICAL CURE OF URETHRAL STRICTURE.[1]

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THOUGH it is universally recognised that strictures of the urethra differ in their situation, cause and arrangement, no attempt has, so far as I am aware, been made to lay down any principles which should guide the surgeon in dealing with these separate varieties. Excluding the traumatic form which, as is so well known, differs from the organic stricture in its extreme intractability, we seem hardly to have advanced much further in our ideas of the causation and pathology of the disease than had John Hunter. He recognised three varieties—*true spasmodic*, *permanent* and *mixed*, and states further and with equal truth that spasm plays an important part in most strictures. Subsequent writers on the question have little to add to this view and the less we stray from these simple statements the greater chance of our getting a clear conception of what urethral stricture is and how to treat it. One point alone we may add to this description to make it complete: we must recognise that congestion plays a very considerable part in many a stricture that comes before us. There is another factor of equal if not of greater importance which remains to be determined before a stricture can be successfully treated. Its exact locality must be determined, and this is doubly necessary, because, for reasons that are not altogether explainable, the locality affected influences both the course which the disease follows and the means which are to be taken for its relief. It is often assumed that the appearances of diseased structures which are so familiar to the student of museums form an all-sufficient basis to enable us to carry out a successful line of treatment. Nothing, I am persuaded, is more untrue and nothing more likely to bring surgery into unmerited disrepute than the acceptation of such a dictum, as some writers have accepted it without any reservation whatsoever. So far as it goes it cannot be denied that the museum specimen is a most valuable guide; but it must be treated as a servant and not as a master. It represents typical well-marked forms of disease; but the slighter varieties, the beginnings of disease, which are so instructive in teaching us its progress and course and in opening our eyes towards a rational mode of treatment, are practically unknown in museums and are for the most part incapable of representation there. We cannot take a better illustration of this fact than that which is derived from an inspection of hernia specimens in many museums. Direct and indirect inguinal herniæ figure in almost equal abundance and the surgeon who depended only on museum specimens for his knowledge of hernia would perforce conclude that direct and indirect inguinal hernia was of equal clinical significance, whilst a knowledge derived from the living facts of disease would soon convince him that it was their very rarity and not their clinical importance which had prompted the specimen hunter to place direct inguinal herniæ in a bottle. So it is with urethral strictures. Our museums bristle with interesting examples of severe organic strictures, many of them produced by the injudicious use of small and dirty silver catheters, or irritated by the unsparing use of caustics; but of the everyday slight urethral stricture but comparatively few examples are to be found. Not that it is for one moment my intention to find undue fault with the treatment of the period to which these specimens belong. It has now happily passed away, it is to be hoped never to return, but it represented the best thought and the most careful manipulation of a past generation, that was gradually *struggling onwards on the lines of surgical progress, and as such* should command our intelligent respect; but the specimens which it produced must never be set up as examples worthy of imitation or as indications of the natural course of the disease, unless we are inclined to add the words "exaggerated by surgical treatment." If evidence be needed of such a statement we can find it in the false passages which abound in such specimens, and which may serve as a warning to us against the indiscriminate use of metal instruments. If we would gain a clear knowledge of the best methods of treatment we must extend our knowledge of pathology from the museum spirit to the human flesh, which is more than ever possible to-day by the aid of the urethroscope and cystoscope What up to quite recently had been a matter of supposition and inference is to-day oftentimes visible to personal inspection. Allusion has already been made to John Hunter's classification of strictures into permanent or organic spasmodic and mixed strictures. Some good reasons may be given for adopting this classification to-day. If the spasmodic variety be first considered it will perhaps conduce to the better comprehension of the other forms, because, as I hope to be able to show, it is the parent of them at any rate in the vast majority of instances. No one doubts that the urethra is at times the seat of spasm, for everyone who has been a few years engaged in the practice of medicine has known instances in which the passage of urine previously easy has been almost if not entirely brought to a standstill either by exposure to cold or by an error in diet. Even Sir Henry Thompson does not deny that in that sense the urethra is subject to spasm, but he would have us believe that such spasm has no connexion with stricture. In referring to the statement made by Otis that deep strictures sometimes disappear after the incision of those situated nearer to the orifice, he makes the following statement. "The deep stricture must be dilated or incised or it will remain as before. If, however, all that is intended by the statement referred to is that a stricture near the meatus may induce spasmodic contraction of muscles connected with the deep urethra, then I have no further concern with the statement; the condition alleged is not stricture; the spasm may or may not occur; its occurrence is a matter of inference or of speculation, not of physical proof, and has no relation to the matter now under consideration."

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[1] Practical Treatise of Diseases of Women, edition 1880, p. 3[illegible].

[1] A paper read before the West London Medico-Chirurgical Society, Jan. 8th, 1892.

Many cases of spasm are undoubtedly hypothetical, but all must not be dismissed in so summary a fashion. It is now several years back that I was called upon to treat a case of stricture in the deep urethra, which was said to have supervened upon a recent attack of gonorrhœa and, moreover, a first attack. The patient in question complained that he was often seized with attacks of retention, and though a hot bath usually relieved him yet a few days later the attack recurred. At times he was quite free from any pain or inconvenience He was anxious, however, to obtain relief rapidly, as he was about to leave England for some time, and I had arranged to divide his stricture, as, though easily dilatable after a catheter was tied in, it speedily underwent recontraction and was very painful to the passage of instruments. Under these circumstances urethrotomy had been advised and he was accordingly anæsthetised. I had passed a No. 3 English catheter for him two days previously and did not anticipate any difficulty; but, much to my astonishment, I found that when he was fully anæsthetised the urethra was perfectly patent and no difficulty whatever was experienced in introducing a steadily ascending series up to No. 16 English, though for the larger instruments I was obliged to divide the orifice. I need hardly say that under such circumstances no cutting operation was attempted. After such complete dilatation under the anæsthetic no further difficulty was experienced with catheters, and he soon learnt to pass one for himself. I advised that this should be continued for some little time, and then discontinued, imagining that some temporary cause had induced a spasm and that all further trouble would soon be at an end. I saw nothing of my patient for several years, but within the last few months I have seen him again, and learnt that a few weeks after our last interview he discontinued the use of the catheter, and all went well for several years; but about a year ago—i.e., three years and a half after I had seen him—the ordinary symptoms of stricture supervened, and he sought medical aid. It was dilated and by occasional catheterism he has been kept by this means fairly comfortable, but on the site of the old spasmodic stricture there is now a permanent one of organic character.

Some two years ago I published an account in the Medical Society's Transactions, vol. xiii., page 105, of a somewhat similar case in which electrolysis failed to produce any permanent relief, but which readily yielded to internal urethrotomy. The case is in some respects so remarkable that I need make no apologies for repeating it once more.

W. P——, aged twenty-four, came to me with a stricture which would admit a No. 4 English catheter. As soon as No. 5 had been held against the stricture for about a quarter of an hour it passed through, and then Nos. 8, 9, 10, 11, and 12 all passed in rapid succession. Nine times in succession did I dilate the stricture, and nine times did he return in intervals of from fourteen to twenty-eight days with his stricture in the same condition. It was clear that one had to deal with a *bonâ-fide* case of spasmodic stricture. I examined the man's urethra with the urethroscope and detected on the left side of the canal a small red patch, which was situated as nearly as possible in the locality of the stricture. This at once recalled to me the views on the pathology of rectal stricture which have been so carefully worked out by my friend and colleague, Mr. Harrison Cripps, in his well-known book on "Diseases of the Rectum and Anus," and the case which he records of spasmodic rectal stricture which completely disappeared under an anæsthetic, but which two years later, when he examined the rectum, was converted into a mass of unyielding cicatricial tissue. I soon came to the conclusion that I really had to deal with a spasmodic stricture set up by a small ulcer in the mucous membrane, and that this muscular spasm was gradually being worried into a permanent cicatricial contraction of the canal. This being the case, I at once changed my method of treatment, and advised an internal urethrotomy. The patient consented, and after the operation was completed a No. 16 English catheter was tied in for twenty-four hours, and the urethra kept well dilated by the passage of instruments at frequent intervals for a month. His stricture vanished and nine months later for the first time for eight months I passed an instrument for him and found no trace of his previous trouble. Of course I cannot say that he will have no return, but I feel fairly confident that his case is to be regarded as a true cure, the result of an application of that surgical principle which Brodie so successfully employed in dealing with ulcer or fissure of the rectum.

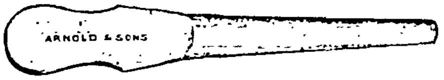
There cannot be any reasonable doubt that in both these cases just related one had to deal with a true spasmodic stricture and there is, I think, but little reason for doubting that the last case would have gone the way of the first had its downward course not been arrested by a timely urethrotomy. Erichsen records such an excellent instance of extreme spasm existing in a comparatively slight stricture that it is worth while, coming as it does from an independent observer, to record it here. He says: "The influence of anæsthetics in facilitating the passage of instruments through apparently impermeable strictures is very marked. Shortly after the introduction of ether as an anæsthetic agent Liston was going to cut through a stricture that had resisted all empts made by his most dextrous hand at introducing instrument into the bladder; but no sooner was the ient put on the table and rendered insensible than the . 8 silver catheter, which had been passed down far as the stricture, and the point of which was serve as a guide for the knife, slipped into bladder and thus rendered a dangerous operation unneces- y." Since my attention has been specially directed to the nexion between spasm and stricture I have, almost as a tine treatment, employed an anæsthetic before beginning undertake the treatment of a case of urethral stricture. d I have been very much struck by the large number of ses in which the stricture has largely increased in calibre der the influence of an anæsthetic. I think I may say it almost an invariable rule for strictures to yield somewhat, d many yield to a very considerable extent. Whenever stricture yields largely to an anæsthetic, it is almost rtain, when examined with the urethroscope, to display considerable amount of congestion, and often patches of anulation tissue are seen in its immediate neighbour- od. Much of this spasmodic irritability will disappear r rest in bed and other well-known appropriate means, but ere usually remains a small amount of true spasm which elds only to the anæsthetic. If this residual spasm is to seen in perfection, it must be looked for in an early and cent case, and not in one in which the cicatricial contrac- on has reached its practical maximum, and where the mus- lar tissue surrounding the urethra is incapable of producing rther constriction. It is needless to add that such conditions re incapable of demonstration by museum specimens, but ey can be readily detected by the methods just referred to. hese are the cases which, if early recognised and judiciously eated, will I believe yield a considerable number of real cures. he very earliest of all may possibly be cured by the passage f instruments, whilst the more severe cases will yield to elec- olysis, or should if this plan fails be subjected to urethrotomy, nd well dilated afterwards. Probably one reason why one ldom sees a real cure after urethrotomy is that dilatation is ot practised sufficiently, nor with large enough instruments. ut of this more later. It is worth while recording that there is o longer the same rooted objection to the word "cure" connexion with urethral stricture that there used to be. r. Mansell Moullin has published an account of some cases in HE LANCET, May 7th, 1892, in which patients had been eated by various surgeons for stricture and in which a cure in s truest sense resulted. It is not so long ago that such a state- ent would have almost been hailed as evidence of quackery. ace a stricture always a stricture represented the views of enty years ago. I have myself come across a fair number cases in which an undoubted cure has resulted, one, I member, in which a patient had been originally under treat- ent for stricture by the elder Coulson, and thirty-five years terwards I saw him. He assured me he had diligently ssed a catheter or bougie (I forget which) most religiously ice a week ever since. He had absolutely no trace of a ricture, and I advised the discontinuance of his instrument. saw him a year or more later, when I passed a catheter r him in order to be able to assure him that there was no ance of a recurrence, and he was still quite free from con- iction of any sort. Now what is the best system to rsue for strictures which are not complicated by spasm, in which at any rate spasm plays a very insignificant rt? Can we hold out any hope of cure? It must be mitted the expectation of cure is not often realised, but it rtainly does occur sometimes.

Sir Henry Thompson records a case in which, after a stricture d been three times divided by internal urethrotomy, a re which remained permanent twelve years later oc- rred, and other instances of undoubted cure may be ted. One thing is certain, and that is if once a icture is completely divided the question of its ultimate re depends on the subsequent dilatation, on the mode ployed and on the thoroughness with which it is carried t. It has been too long assumed that so inveterate is the dency in a cicatrix to contract that no human power can event it. Such a doctrine has done little but retard our owledge. That cicatricial tissue has a strong tendency contract may be readily admitted, but it is a tendency ich can be overcome in some instances very readily. y, we might ask, does not the cicatrix which is [illegible] after a radical cure for hernia go on con- [illegible] for ever? If only it did do so the hernia uld have no chance of requiring a second operation and [illegible] would be more easily cured than they are at present. Why do not the scars of old strumous abscesses in the neck, after they have been relieved by subcutaneous section, return to their former condition, and why do not burn cicatrices, the most inveterate of all forms of scar tissue, go on contracting for ever? Simply and solely because treatment is directed towards preventing such a result. Movement of one kind or another is kept up for a sufficient length of time and eventually most of the tendency to recontraction disappears. In the case of the neck this is the more remarkable, because the only possible treatment is rubbing and moving the scar, presumably with the object of preventing the cut bands of scar tissue from rejoining, and there is, as we shall see, some reason for believing that an analogous form of treatment in the case of the urethra will produce in some instances an equally happy result. Rectal strictures of a fibrous nature certainly yield to free division accompanied by persistent dilatation subsequently, and if large bougies are used for about a year, at first daily for ten minutes and after a few months less often, the stricture disappears and shows no tendency to return—a fact which I have been able to verify on several occasions. In some instances I have tried a precisely similar plan with urethral stricture, and with the best results. For this purpose the best instrument that can be employed is a conical steel bougie of as large a size as the urethra will admit. There are very few urethræ that will not take with ease a No. 16 English catheter, when the meatus is divided, and in a very large number of patients a No. 18—occasionally No. 20—can be passed without difficulty. Such instruments have the supreme merit of being readily kept clean; they take a high polish and thus pass easily into the bladder, and though at first sight it may sound strange to say so, patients pass them more readily for themselves than almost any other kind of instrument. The reason for this is on reflection quite clear; their weight is such that when passed an inch or two into the penis they glide imperceptibly down the inclined plane of the urethra into the bladder.

I have several cases under observation in which no trace of stricture remains three years after all treatment by dilatation has ceased. But those who have had any experience with hospital patients know how futile it is to expect treatment of this kind to be carried on long and continuously. A few may carry out directions, but the vast majority do not, and in this fact lies the difficulty of the cure. Such experience, however, as I have had of the passage of steel sounds daily, and allowing them to remain in for ten minutes, has led me to believe that dilatation so practised has a far more potent effect even on the very worst strictures than any other plan with which I am acquainted. One man I at present have under observation who was the subject of a very bad ruptured urethra, has been for some months quite free from trouble, while he was so under no other plan of treatment, and at the present time he is beginning to be able to slack off dilatation, because the tendency to recontraction is no longer so marked as it was.

There are classes of cases in which probably there will be no difference of opinion amongst surgeons as to treatment—viz., those cases in which no instrument can be introduced into the bladder. One of two operations must be performed—either that which is associated with the name of Mr. Cock or that which is known as Wheelhouse's operation. The latter is unquestionably tedious, and often attended with considerable difficulty; but the results, both immediate and ultimate, are excellent. Cock's operation, though one of the most rapid methods for the immediate relief of a distended bladder, is by no means altogether free from risk, and often leaves the patient in a worse position almost than he was before the operation, for no attempt is made to promote a continuity between the back and front parts of the urethra; and unless a second operation, somewhat of the nature of a Wheelhouse, is undertaken at a later period, the patient may be compelled to urinate through his perineum for the rest of his days, quite apart from the danger of having his urethra cut completely across, as a result of the first operation for his relief. For my own part I have been inclined to employ more largely than some surgeons the various methods of external urethrotomy from a belief that has been gradually forced upon one that the dangers and evil consequences of relieving a strictured urethra with small instruments, especially when metal ones are made use of, are even greater than they are ordinarily supposed to be. Moreover, though the immediate consequence of an external urethrotomy is often a prolonged and tedious convalescence, yet its ultimate result is with ordinary care both certain and permanent. As an instance of the difficulty which is sometimes met with when the shorter but more dangerous plan of attempting to pass a small metal instrument by the urethra is carried out, there is a preparation in the *Norwich Museum of the bladder and urethra* of a surgeon, who had suffered for some years from stricture and for whom a small metal instrument was passed by a well-known London surgeon fifteen years before the patient's death. For fifteen years he never voided his urine *except by means of a catheter and after his death it was* discovered that the reason for this state of affairs was that a false passage existed, which had left the urethra in front of the stricture and re-entered it in the middle of the prostate. Through this false passage all the urine had been drawn off with a catheter for fifteen years. Nothing probably has tended so much to the better treatment of urethral disease of recent years as the more general employment of rubber instruments in the treatment of small strictures, and it may certainly be laid down as an axiom that whenever a soft guide bougie will pass through a stricture it is capable of treatment by internal urethrotomy, whilst such an occurrence as the one just related will serve to show that however brilliant the passage of a metal instrument may seem to the bystander, the state of the patient afterwards may not be one to be exactly envied. Even if it be granted that success would follow on nine occasions out of ten the surgeon should rather content himself with the more tedious method than court occasional disaster for the sake of a brilliant temporary success.

It has long been recognised and it is now pretty generally admitted that penile strictures demand incision, whilst those more deeply situated are quite amenable to dilatation. It is certainly a curious fact that anterior strictures will not often yield to dilatation, and this is probably due to two facts: (1) The septum pectiniforme of the penis is unusually firm and unyielding at its anterior portion; (2) the causes—such as syphilitic sores and very acute inflammations usually of gonorrhœal origin, which tend to produce anterior strictures, are usually attended with a great deal of inflammation, and thus give rise to strictures of a very unyielding nature. Still the anterior strictures are interesting in other ways. Some of those which are situated within the first inch of the urethra are certainly capable of real cure. In the first place they are visible to the eye, so there can be no dispute about their existence; in the second they can be kept in view whilst *they are being divided; and in the third place they can be* kept dilated with very large instruments for any period that may be considered to be necessary. If cure be desired in such cases the stricture should be kept dilated for a few minutes daily with a short conical steel bougie for at least six months, after which time the dilatation should be carried on once or twice a week for four or five months more, at the end of which time there will be found to be in most cases (probably in all) but little tendency to recontraction. The accompanying engraving will show the character and shape of the instrument. Surely if such a result can be obtained with such severe strictures, it should encourage us to hope for cure in those more deeply placed.



With regard to the strictures which are more deeply situated there will probably be *much difference of opinion* as to how they should best be handled. Many of the slighter ones are so readily amenable to occasional dilatation that few patients are disposed to submit to more prolonged treatment. With the more severe types whenever there is much thickening to be felt from the outside, if there is tendency to congestion, as is shown by their readiness to bleed, or by their admitting instruments of variable size within a short period, no plan has yielded in my hands such good results as electrolysis. I have on more than one occasion published an account of cases with their results several years afterwards, and further experience leads me to assert confidently that in suitable cases excellent results will with care be obtained.

If I were asked to formulate in a few words the most essential points in the treatment of stricture of the urethra I should be inclined to say: 1. Make certain you have a true stricture to deal with. 2. Take the greatest care to keep it dilated for a long time after it has been incised. 3. Where there is much thickening employ electrolysis.

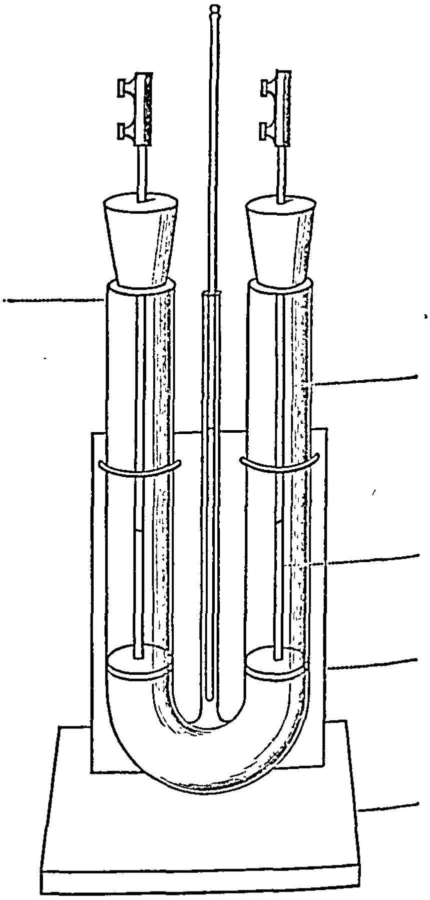
Harley-street, W.

"THE ELECTRICAL RESISTANCE OF T URINE AS AN AID IN DIAGNOSIS."

BY DAWSON TURNER, B.A., M.D., F.R.C.P. EDIN.,

PHYSICIAN TO THE LIVINGSTONE MEMORIAL DISPENSARY; LECTU ON MEDICAL ELECTRICITY AT SURGEONS' HALL.

A PRELIMINARY ACCOUNT of part of this research given in the Proceedings of the Royal Society of Edinb on Dec. 21st, 1891, and a further account is being pub in the author's "Practical Manual of Medical Electrici I desire here to give a brief summary of the work and c chief results. The object of the inquiry was to ascertain electrical resistances of various kinds of urine, both in st of health and of disease. The measurements were made means of a Wheatstone's bridge with alternating curr and a telephone according to Kohlrausch's method and temperature of 65° F. The engraving is a view of electrolysis tube used.



It would appear from the observations—some 5 number—that the specific resistance of a normal urine am on the average to about 45 ohms, and that it varies as a more or less inversely with the specific gravity. When specific gravity is high and when the urine holds in s much salts, its electrical resistance is low, and w where the specific gravity is low, the resistance is high amount of urea has but little to do with the resist ordinary urines. A number of experiments were made artificial urines (see tables), and from these it is c apparent that the electrical resistance depends almost e upon the salts, and that it is only when these are absent, or very much diminished that the influence of

Tables of Electrical Resistances of Artificial Urines.

UREA.

Strength.	Specific resistance in ohms.
3 per cent.	382·5
2 ″	569·5
1 ″	977·5
0·5 ″	1785

SODIUM CHLORIDE.

Strength.	Specific resistance.
2 per cent.	29·25
1 ″	59·5
0·75 ″	79·9
0·5 ″	110·5

UREA AND SODIUM CHLORIDE.

Urea.	NaCl.	Specific resistance.
3 per cent	1 per cent.	55·25
2 ″	1 ″	57·8
1 ″	1 ″	57·8

GRAPE SUGAR AND SODIUM CHLORIDE.

NaCl.	Sugar.	Specific resistance.
1 per cent.	10 per cent.	68
2 ″	20 ″	51
2 ″	30 ″	63·75

rea makes itself felt. The resistance is a measure of the hemically active substances in the urine—of the salts, paricularly of the chloride of sodium. This gives us a simple nd rapid method of estimating the constitution of a urine as egards its salts, while the specific gravity, in the absence of ugar, is a guide to its urea. Some interesting and useful esults come from the employment of this method. There re in certain diseased conditions exceptions to the rule laid lown that "the resistance varies inversely with the specific ravity"; amongst these are croupous pneumonia and liabetes mellitus. The increased resistance in the former is lue to the diminution in the chlorides, and in the latter to the reat relative diminution in all the salts, while the specific gravity is raised above the normal by the sugar; but the very presence also of the sugar, if in large quantities, tends by its viscosity, perhaps, to slightly raise the resistance.

In acute and chronic Bright's disease, in certain respiratory affections, in pernicious and other anæmias, &c., the resistance is high; in neurotic individuals of active mental capacity, and in certain other conditions, the resistance is low. The method may be used in both diagnosis and prognosis, and has appeared to me to be an excellent barometer not merely of the efficiency of a patient's kidneys, but also of his general condition. The lower the electrical resistance the healthier, *cæteris paribus*, will be the condition of the kidneys; and where a patient is improving the resistance will diminish from day to day and *vice-versâ*. The tables appended illustrate this in a striking manner. Remembering that the normal specific resistance is about 45 ohms, it will be noticed that in the case of J. B. (subacute Bright's disease) it stood at first at 114·75 ohms, and at once, on suitable treatment being adopted, began to fall, eventually reaching 42·5 ohms. The patient was kept on milk diet until March 15th. He considered himself at that time perfectly well. The second table exhibits the steady increase of the resistance in a case of pernicious anæmia, as the patient grew worse, followed after transfusion on Feb. 16th by a rapid improvement, so that before a month had elapsed the resistance was down to the normal.

Electrical Resistance of J. B.'s Urine (Subacute Bright's Disease).

Date.	Sp. gr.	Urea grs. per oz.	Albumen &c.	Specific resistance.
Dec. 8	1011	4	blood	114·75
″ 11	1012	4·63	″	106·25
Jan. 9	1013	4·68	albumen	89·2
″ 20	1011	3·6	blood	93·5
″ 29	1015	3·74	″	78·5
Feb. 11	1010	3·04	″ (less)	73·1
″ 15	1014	4	″	61·2
″ 23	1015	4·83	″	69·5
March 5	1016	5·6	″	61·2
″ 12	1017	4·63	″	74·8
″ 24	1020	9	albumen	63·75
May 24	1024	8·19	″ (less)	42·5

Case of L. (Pernicious Anæmia).

Date.	Sp. gr.	Urea grs. per oz.	Albumen, &c.	Specific resistance.
Jan. 16	1017	9·36	0	68
Feb. 11	1015	6·31	0	78·2
″ 16 (before transfusion)	1014	7·7	0	115·6
Feb. 16 (after transfusion)	1014	6·5	blood	115·6
Feb. 17	1012	6·03	0	114·75
March 1	1020	7·01	0	61
″ 12	1019	7	0	44·2

I have to thank Dr. J. O. Affleck, physician to the Royal Infirmary, very heartily, not only for many of the specimens of urine obtained from patients under his care, but also for the encouragement he has continually extended to me in prosecuting this inquiry. My thanks are also due to Dr. Milne Murray for advice in regard to some of the electrical details.

Edinburgh.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL.

GASTRIC ULCER WITH HÆMORRHAGE, TERMINATING FATALLY FROM THROMBOSIS OF PULMONARY ARTERY.

BY JOHN H. DEWHURST, M.B., B.C.CANTAB.

M. F——, aged twenty-five, was admitted to hospital under Dr. Johnson on Oct. 6th, 1891, with the following history. Two years previously she had gastric ulcer with slight hæmatemesis. She soon recovered and had been in fair health until ten days ago, when she began to feel some uneasiness after food, followed in a few days by vomiting whenever she tried to take anything solid; vomit occasionally blood-stained. Seven days ago she had profuse hæmatemesis, followed by several attacks of fainting on the slightest exertion. On admission the patient was extremely anæmic and complained chiefly of great thirst and faintness. She had not vomited since the hæmorrhage. Pulse 160, very weak; temperature 100°. There was a faint systolic murmur at the apex of the heart and over the pulmonary artery. The urine had distinct traces of albumen. The tip of the nose was discoloured (capillary stasis). On the night of admission the left foot suddenly became painful and swollen. She took nourishment well—nutrient suppositories, peptonised milk, strong beef-tea with desiccated blood &c.—Oct. 7th: Left big toe discoloured. Rather delirious towards evening.—8th: Tip of index-finger of right hand somewhat discoloured. Pulse 120. Towards evening the patient became more restless, with some dyspnœa; several times tried to get out of bed. I was called about midnight, when the breathing was very shallow and hurried; heart acting very strongly, but irregularly. She died within a few minutes, her face remaining quite pallid to the end.

Post-mortem examination thirty hours after death.—On the upper margin of the anterior wall of the stomach, midway between the cardiac and pyloric ends, was a small punched-out ulcer about the size of a sixpenny-piece; just above was a small patch of submucous hæmorrhage. About three-quarters of an inch below was a small puckered scar (probably the seat of the ulcer two years ago). The lungs were very anæmic, but freely crepitant all over. Heart: The left ventricle was practically empty; the right ventricle contained a small quantity of red clot, which easily broke down. Starting from the base of one of the columnæ carneæ and firmly attached to it was a piece of clot about the thickness of a goosequill, greyish-white in colour and of singularly firm consistence. This extended along the pulmonary artery, divided into right and left and gave off shoots down the main branches. On pulling firmly the cardiac end a large piece about five inches came away, showing plainly the division of the artery into main and secondary branches. The clot was very elastic and stood a good strain, returning to its original shape much like a piece of indiarubber.

Remarks.—I think there can be no doubt this patient died from thrombosis of the pulmonary artery—certainly not a very common cause of death after gastric ulcer. Transfusion was to have been done the next day, but unfortunately her sudden death forestalled us.

Tunbridge Wells.

ON PERFORATIONS THROUGH THE ANTERIOR PILLARS OF THE FAUCES.

BY G. G. MORRICE, M.D. CANTAB., M.R.C.P.

IN THE LANCET of Nov. 30th, 1889, Dr. Walter Fowler contributed a Clinical Note entitled "The Significance of Perforations through the Anterior Pillars of the Fauces." He concludes with the sentence, "Hence I look upon these perforations as caused by suppurative or phlegmonous mischief in the tonsils; and, considering the circumstances under which they are generally met with, the lesion is most probably a sign of antecedent scarlet fever." As Dr. Fowler does not mention having actually seen the perforation taking place it may be of interest to record the following cases occurring in diphtheria. They took place in Homerton Fever Hospital. I am indebted to Dr. Collie for leave to publish them.

CASE 1.—N. W——, aged ten. She vomited on Aug. 15th, 1890, and was admitted to the Eastern Fever Hospital next day with membrane on the soft palate to the left of the uvula.—16th: The greater part of the left side of the palate is covered with thick jelly-like membrane. During the next week the membrane gradually cleared off, but at the same time an oval piece sloughed out of the left anterior pillar, leaving a hole which would admit a cedar pencil. No sign of diminution in its size appeared while she was with us. Summary of the convalescent stage.—30th: Nasal voice.—Sept. 10th: Paralysis of accommodation.—28th: Attacks of vomiting.—29th: Patellar reflex lost. It was excessive, as often happens, for about two weeks before disappearing. Albuminuria, which had appeared on Aug. 8th, disappeared by Sept. 6th.

CASE 2.—A. K——, aged eight, complained of sore-throat on Feb. 22nd, 1891. On admission to hospital on Feb. 25th there was membrane on the uvula, tonsils and soft palate. A watery discharge from the nose.—March 1st: Uvula encased in discoloured membrane.—2nd: Urine contained much albumen (none on admission).—4th: Voice slightly nasal.—9th: Slough of an oval piece of the left anterior pillar; occasional vomiting; knee-jerks exaggerated.—11th: Drinks return through the nose.—14th: Knee-jerks absent.—30th: Loss of accommodation. April 14th: Strabismus.—15th: Albuminuria ceased; cannot stand alone.—25th: Accommodation regained.—May 5th: No improvement in locomotion.

CASE 3 (from the notes of a colleague).—N. S——, aged two, was admitted to hospital on July 14th, 1891. Bright injection of fauces and soft palate. Yellowish solid-looking deposit on both tonsils.—18th: Deposit has not yet cleared off.—22nd: Well-marked purple bloom on the fauces; a small hole through the right anterior pillar where a piece seems to have sloughed through, large enough to admit a bodkin; no sequelæ.

Now, with regard to scarlet fever, I have recently seen two children with small perforations of the soft palate and a child, who died, in whom most of the soft palate had disappeared. I have also before me the notes of two other cases, one of whom died of pneumonia and nephritis. These I did not see. My observations up to the present time would lead me to think that the most complete and permanent perforations occur in diphtheria. The striking features about them are the similarity of their position (just above the last molar tooth) and the absence of any indication of repair, their edges being as smooth and uniform as those of a gastric ulcer.

Homerton.

CASE OF DISLOCATION OF THE METATARSAL BONE OF THE GREAT TOE.

BY T. CAMPBELL GREY, M.R.C.S., L.R.C.P. LOND.,
RESIDENT MEDICAL OFFICER, SWANSEA HOSPITAL.

R. R——, aged twenty-two, engineer, was brought to the Swansea Hospital on June 13th with a recent injury to his right foot. The accident happened in the following manner. The patient's right foot was on the step of an engine, the posterior part being supported by the step, but the anterior part projecting beyond it. The crank of the engine in its descent struck the projecting part of the foot on its inner and anterior aspect. On examination the skin was abraded over the inner side of the dorsum; the big toe was fixed, the patient being unable to move it; there was a prominence about an inch in front of the tubercle of the scaphoid on the inner part of the dorsum formed by the anterior articular surface of the internal cuneiform; on the inner border of the sole below and behind this was another prominence produced by the displaced base of the first metatarsal bone; this caused a shortening and depression of the arch of the foot. There were no fractures or displacements of any other bones of the foot. I first attempted to reduce the deformity by traction alone, but failed; then, aided by an assistant who pushed forward with his thumb the base of the displaced bone, I was enabled to replace the bone without any difficulty. The case was treated in the usual way; no sloughing of the skin took place, although there had been considerable bruising and at the end of a fortnight the patient was able to begin to use his foot. The rarity of this displacement, unless accompanied with severe injury to the foot, is sufficient excuse for placing the case on record.

Swansea.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se compare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Prooemium.

LONDON HOSPITAL.

TWO CASES OF PERINEAL PROSTATECTOMY.

(Under the care of Mr. C. MANSELL MOULLIN.)

THESE two cases illustrate exceedingly well the advantages and the risks of perineal prostatectomy. In the first complete retention was caused by a comparatively slight degree of overgrowth; the gland had spread up the neck of the bladder along its posterior and left lateral wall until it formed two projecting nodules which, meeting over the orifice when the muscles were set in action, effectually closed it. All that was needed was the excision of the offending mass and the division of the growth beneath it in the neck. By this the obstruction to the exit was completely removed, and then the wall of the bladder, which had lost all power of contraction from over-distension, began slowly to recover. Fortunately there had been no previous cystitis, so that the failure in expulsion was due to atony alone and not to the infiltration of the muscular coats by the products of chronic inflammation. In such a case there can be no doubt the perineal operation is the most suitable. The supra-pubic would probably have given equally great relief, but it is certainly more dangerous; cystotomy and drainage might have succeeded, but where it is practicable it is infinitely preferable to re-establish the natural route, and the remaining alternative, catheterism four times a day—by the patient himself or an attendant—could only have had one result. In the second case the conditions were entirely different. Here the lateral lobes were the offending structures; their upward growth had raised a fold between them behind the vesical orifice, but this was firm and rigid, not valve-like, and, though it might have led to the production of a post-prostatic pouch, would not of itself have caused complete retention. The chief difficulty, if not the whole, was due to the way in which the increase in their thickness had compressed the urethra into a narrow slit, through which it was not easy to force the finger. This—aided no doubt by the stricture in front—had created a degree of resistance which the wall of the bladder, weakened as it was by long-continued chronic inflammation, was unable to overcome. Catheterism had become impracticable. The supra-pubic operation would almost certainly have proved fatal, and would not alone have relieved the stricture. Probably in such a case it would have been better to have been content with simple drainage. The bladder regained a certain amount of power and for a time was able to expel urine through the perineal wound at intervals of two hours; but the task of repair was too great and the sloughing continued to spread. Both lateral lobes have been removed successfully through a perineal incision by Landerer and Willett and one by Wishard; but another case in which the last-named surgeon operated terminated fatally from pyelitis three months later. On the whole the space available is so small and the bruising inflicted during the manipulation is so great that in those cases of prostatic retention in which the chief seat of obstruction is in the lateral lobes it seems preferable either to perform the supra-pubic operation as practised by McGill, or to resort to simple drainage, according to the condition of the patient, and not to attempt complete enucleation through a perineal incision.

A. J——, a printer seventy years of age, was admitted into the London Hospital on Feb. 12th, 1891, suffering from prostatic retention. The patient was thin and rather wasted in appearance. According to his own account he had always been healthy, although he was suffering at the time from varicose veins and a large chronic ulcer on each leg, until about three weeks before, when he noticed that there was some difficulty in micturition and that the urine did not come in a full stream. He admitted, however, that his night's rest for some time previously had been a good deal interrupted. Retention was complete. A silver prostatic catheter passed easily, but a soft one was brought to an abrupt stop just beyond the bulb and could not be introduced without a stylet. The bladder held from twenty-eight to thirty ounces of urine and had practically lost all power of expulsion, the stream flowing away and following the respiratory movements. The urine was acid, sp. gr. 1013, and contained a trace of albumen and a few blood-corpuscles. The amount was very variable—thirty ounces one day, sixty the next. This continued for a fortnight, no urine coming without a catheter and the bladder not regaining any of its power. The prostate per rectum was only moderately enlarged; from the ease with which a full-sized catheter passed and from the very small quantity of blood in the urine it was fairly certain that the retention was not due to an attack of congestion or thrombosis, which would pass off again. The length of the prostatic urethra was not much increased; from the way in which a soft instrument was stopped the middle lobe certainly projected forward into the channel, and it was therefore determined to make an examination with the finger and if the diagnosis proved correct to remove the obstruction as far as might be practicable.

The operation was performed on Feb. 24th. The perineum was soft and devoid of fat, and as the prostatic urethra was scarcely longer than normal, there was no difficulty in reaching the bladder. The median lobe was found projecting forwards into the neck and was removed by means of a wire écraseur passed around it, and the top of the left lateral lobe, which had also grown out, was taken off in the same way. An incision was then made along the floor of the urethra in the middle line behind, and the firm tissues torn through by the pressure of a steel director, with the object not only of removing the valve but of establishing a low level channel and keeping the post-prostatic pouch empty until its walls had recovered their tone. A drainage-tube of full size was inserted through the wound into the bladder and continued into a receptacle by the side of the bed. The hæmorrhage at the time was very slight, but a considerable amount of venous oozing persisted throughout the night. The shock, probably owing to this, in great measure was very severe, the temperature falling as much as two degrees, but the specific gravity of the urine that was collected remained practically the same. For some days the patient's condition was critical; there was no fever, the pulse remained strong and a fair amount of food was taken; but he became delirious, losing all control over his actions, and required to be watched constantly. Partly for this reason, partly because the regular washing out of the bladder caused a great deal of pain and disturbance, the tube was withdrawn at the end of a week and the bladder allowed to drain itself through the wound. The urine became alkaline at once, but the decomposition was kept under control by occasional irrigation with corrosive sublimate lotion, [illegible] iodoform emulsion being injected afterwards and left in. With the exception of the gradual diminution of the delirium very little progress was made until the end of the third week; then the urine began to come through the urethra, the reaction became acid again, irrigation was stopped and the wound rapidly closed in. After this the bladder slowly regained its power and by the beginning of April the amount of residual urine was reduced to half an ounce. At the time that he left the hospital (April 13th) the patient was still compelled to pass his urine at intervals of two or three hours, but the condition of his bladder was steadily improving, his general health was perfectly satisfactory and there was every reason to believe that the progress that had been made during the past few weeks would continue.

T. J——, a silk weaver sixty-six years of age, was admitted into the London Hospital on Dec. 22nd, 1891, suffering from retention. For the last nine years patient had been unable to pass urine without a catheter, which he had been in the habit of introducing for himself. On examination a stricture admitting a No. 5 was found at the bulb with several false passages radiating from it and a moderate enlargement of the prostate, the finger in the rectum being just able to reach its upper limit. The urine, the amount of which varied from forty to sixty ounces per diem, was alkaline, sp. gr. 1010, and contained a small quantity of albumen, with pus, blood and squamous epithelial débris. For some nights after admission he was more or less delirious, evidently suffering from incipient uræmia. This gradually passed off and as the general condition improved, while the difficulty of passing a catheter grew greater and greater, it was determined to divide the stricture, drain the bladder through the perineum and at the same time remove the prostatic obstruction. The operation was performed on Jan. 12th. The urethra was laid open and the prostatic portion examined with the finger. By passing in a sound by the side of it and hooking it against the trigone the bladder could be drawn down sufficiently to feel the neck, and it was found that the lateral lobes were much thickened and elongated and that they had raised up between them a fold of mucous membrane (which proved to contain an upgrowth from the prostate) across and behind the vesical orifice. The median bar was divided, but as this did not give much relief an attempt was made to enucleate a sufficient portion from the lateral lobes by incising the mucous membrane, covering them and working at them with the finger and a Volkmann's spoon. Upwards of a dozen nodules, varying in size from a pea to a hazel-nut, were shelled out in this way; the channel freely opened, so that the finger could be introduced without difficulty, and a drainage-tube of full size secured in the wound and arranged so as to carry off the urine. The anæsthetic given was ether, and the patient stood the operation and the constrained position well; but shortly after being placed in bed the breathing failed and the pulse became exceedingly feeble. Artificial respiration was resorted to and stimulants given freely until the condition of collapse passed off. The next day the pulse was very weak and irregular and, though a fair amount of liquid food and stimulants was taken, the patient continued in a condition of extreme prostration. The day following the temperature rose to 102° F. and the pulse at night to 140. Under the influence of hypodermic injections of digitalin this fell to 100 in the course of the next two days; the strength and fulness of the beat increased; the amount of urine which (though probably all had not been collected) had certainly fallen rose again to 70 oz., and occasionally even more, and for a time there was considerable improvement. The urine was voided at intervals through the perineal opening, the temperature fell nearly to normal, the appetite improved and the patient was evidently gaining strength, although when left to himself he lay in a drowsy, semi-torpid condition. The wound, however, remained in a sloughy state without showing any sign of healing, and a considerable amount of offensive pus came away when it was washed out and also with the urine. On Feb. 4th it was noted that there was some blood in the dressings and the following day about two ounces came away—a quantity small in itself, but sufficient in the patient's condition to make the temperature fall below normal and to bring back the prostration. This in its turn passed off and for some days there was again improvement, but the sloughy condition of the wound persisted, the temperature rose again and became more irregular, the hæmorrhage recurred in small quantities, until at length, on March 15th, as much as four ounces escaped and the patient sank the following day. At the post-mortem examination it was found that practically the whole of the prostate had been removed, a few sloughing shreds around the wall being all that was left. The route into the bladder was perfectly free (a catheter passed in easily through the penis during life), but there was scarcely any evidence of repair. The liver showed an early stage of amyloid disease; there was an old encysted empyema in the right pleura the existence of which had not been suspected during life; one kidney was very small and contracted, the other was larger, but the pelvis was inflamed and there were some small suppurative foci under the capsule.

MANCHESTER ROYAL INFIRMARY.

ACUTE INTESTINAL OBSTRUCTION DUE TO BAND; OPERATION; RECOVERY.

(Under the care of Mr. G. A. WRIGHT.)

THESE cases are always worth recording, as showing the value of exploration in intestinal obstruction—a proceeding which adds little to the danger of the condition and saves at least some lives which would necessarily be sacrificed by treatment without operation. For the notes of this case we are indebted to Mr. C. P. Montgomery.

The patient, a young man of twenty, was admitted to the infirmary on March 24th, 1892, with the following history. About eighteen months previously he had an attack of "inflammation of the bowels," with symptoms of (1) constipation lasting for about a week, a little flatus only being passed during the first day or two; (2) a dull pain, not sharp or griping, referred to the region of the umbilicus; (3) vomiting of green bitter matter. At the end of a week the pain subsided, and, on taking salts, the patient passed copious motions and completely recovered, no abdominal tenderness remaining. A month or two later he had another attack of precisely similar character, subsiding in the same way.

On admission the patient was pale, thin and cadaverous-looking. Since the previous Sunday, five days before, he had not had his bowels moved and had passed little or no flatus. Pain and vomiting had been of the same character as in his previous attacks, but more severe and continuous. The abdomen was full and tense, with a peculiar solid feel. There was no tenderness on pressure over the cæcal region, or indeed over any part, and there were no signs of hernia. The patient's diet was restricted to a little beef-jelly, warm cloths were applied to the abdomen and one grain of opium in a pill was given every eight hours. Temperature 99°; pulse 105. Next day there was less vomiting and the patient passed a little flatus, but this improvement did not continue. The vomiting and pain increased, and in the evening of March 28th, four days after admission, the vomiting became stercoraceous in character and the patient much weaker.

March 29th.—An incision three inches long was made in the linea alba, midway between the umbilicus and pubes. On the peritoneum being opened a quantity of turbid serum escaped and the coils of intestine exposed were full, dark and rather congested in appearance. The cavity was explored with the finger and about on a level with the brim of the pelvis towards the left side a sharp tense band, like a thin piece of whipcord, was felt passing between two coils of intestine and constricting a loop of gut behind. There was considerable matting of the coils of gut, especially behind this band, and it could not consequently be exposed to view. There was no inflammatory collection or special adhesion of coils in the cæcal fossa. This band was divided with scissors and passed into the cavity; the peritoneum was washed out with boracic lotion and the wound closed with three deep sutures through the whole thickness of the abdominal wall and peritoneum and a few superficial skin ones.

30th.—Early this morning the patient passed a copious motion. No pain, tenderness or fulness of the abdomen and temperature normal. The patient is kept well under opium and nothing given by the mouth except a few teaspoonfuls of hot water. No vomiting.

31st.—Beef jelly in small quantities given by the mouth. In the morning the general condition was most satisfactory, but in the evening (9 P.M.) the temperature rose to 102°, with a pulse, full and soft, of 146. At midnight the temperature was a point less, but the pulse was 160 and the patient much weaker. There was no pain or abdominal distension. Some opium was given, and three ounces of brandy were taken during the night.

April 1st.—Morning temperature 98° and pulse 102. In the evening the temperature only rose to 98·8° and pulse 116, while the general condition was good. No pain or distension.

14th.—From the above date till now there has been absolutely no change in the condition of the patient. His temperature has never been above normal or his pulse above 100 and he has had no pain of any sort. His diet was confined to beef-jelly till a week ago and was then extended to milk and custard pudding. Last night the bowels were moved twice, the motions being very hard. An enema of half an ounce of glycerine was given and a copious motion followed.

16th.—Wound dressed and stitches removed; healing perfect. Simple enemata ordered every third day. General condition excellent. Fish diet ordered and Battley's solution reduced to five minims at nights.

22nd.—Patient brighter and fresher looking; diet, fish and fowl alternately.

May 4th.—The patient was discharged to-day. Since the last entry his bowels have been moved every day and he has gained weight and strength. All abdominal distension has gone and there is no trace of pain on pressure.

The history of this case corresponded well with the condition actually found at the operation—i.e., local peritonitis with resulting matting and formation of adhesions, one of which probably constituted the band. The absence of any severe symptoms and the previous recoveries seemed to justify the delay in operating, but as soon as his condition became really bad the abdomen was explored and no doubt it would have been safer to have done this even earlier. The somewhat alarming symptoms on the night of the second day were believed to be due rather to prostration than to any serious local mischief, possibly to shock from fæces passing for the first time through an injured section of gut, and stimulation was attended with satisfactory reaction.

We also give the following account of another case which was operated on by Mr. Wright a few weeks before, and which presents so many points of similarity that we append it for the sake of comparison, although the operation was performed in private and not in the hospital. Whether in this case the band was the result of previous peritonitis or not must remain uncertain. It is improbable that it was of such recent formation as the attack of abdominal trouble ten days before the illness of which details are given and it seems more likely that the trouble lasting from Feb. 7th to the 13th was also the result of the presence of the band. The fact that it was so thin that it tore through quite readily makes it unlikely that the band was due to any persistent fœtal relic. Perhaps the most likely theory is that it was formed at one of the early attacks in the previous autumn.

T. C——, aged about twenty, had a slight attack of peritonitis lasting from Feb. 7th to 13th, 1889, but soon recovered. It appears he had previous attacks in October and November. He was taken ill again rather suddenly after dinner on the 24th. At 9.15 P.M. Mr. Burd was called in. He found the man complaining of very severe pain in the abdomen, which was increased on pressure. The pain was localised to a spot on a level with and slightly to the right side of the middle line of the abdomen, which was tympanitic and slightly swollen. All solid food was vomited, but liquids were sometimes retained. The bowels had not acted for three days. Temperature 100°; pulse 116. Morphia (one-third of a grain) was injected subcutaneously, ice was given to suck and turpentine stupes were applied.

On Feb. 25th the patient was seen twice, the pain and vomiting had ceased and he had slept after the morphia; but in the evening the symptoms recurred, and another dose of morphia was given and an enema of soap-and-water administered, but without result. On the 26th he was somewhat better; on the 27th the abdomen was more distended. Examination of the rectum revealed no cause of obstruction. Temperature 101°; pulse 100. Morphia repeated. On the 28th there was no improvement. Morphia was injected twice. Temperature 101°; pulse 120.

March 1st.—Patient much worse; vomiting distinctly stercoraceous; pain and distension greater. Mr. Burd finding that treatment by opium and starvation after a full trial had failed to give relief advised that Mr. Wright should be asked to operate.

On March 2nd the patient was first seen by Mr. Wright. At that time there was complaint of pain at the umbilicus and in the iliac region, but no iliac tenderness or fulness. There was no visible peristalsis; there was moderate distension of the abdomen. The diagnosis was made of probable matting together of the intestines, and it was decided to open the abdomen. An incision one inch and a half long was made just below the umbilicus, and on passing the finger into the abdominal cavity a band was almost at once felt lying close beneath the opening, the aperture formed by the band was about the size of a five-shilling piece, and through it [illegible] passed. On making traction upon the band to bring it to the surface it gave way; its thickness was no greater than whip-cord. The abdomen was closed and dressed in the usual manner. In the evening after the operation the pain was much less, but not quite gone. There had been no vomiting. Temperature 98·8°; pulse 108. During the night of the 2nd the man passed flatus and the bowels acted naturally the following morning. The abdomen had so much diminished in size that the dressings had all slipped off. The temperature was normal; pulse 80; there was no vomiting. The appetite returned and in the evening the bowels were again open. A half-grain opium pill every four hours was ordered and milk-and-soda-water was allowed. The case went on well and on the 12th the patient was allowed to get up. On the 22nd Mr. Burd saw him for the last time and he was permitted to go out of doors. He has continued well since.

Reviews and Notices of Books.

A Dictionary of Treatment, or Therapeutic Index, including Medical and Surgical Therapeutics. By WM. WHITLA, M.D. Pp. 948. London: Henry Renshaw. 1892.

A WORK which is so comprehensive in its design necessarily demands much thoughtful consideration, not only from the writer, but equally from the reviewer. Dictionaries are proverbial in not affording material which can be read with pleasure or profit for any length of time. They must be tested at intervals for a due appreciation of their merits and defects. When, as in this volume, both medical and surgical therapeutics are included, the reviewer necessarily approaches his task with a sense of diffidence, conscious of the serious issue of attempting to arbitrate upon subjects covering such a wide range, and anxious to do justice to a work which must have cost the author considerable expenditure of time and labour. It may at once be said that Dr. Whitla has very fairly succeeded in what might almost have been thought to be a superhuman task, in supplying a book which is intended to serve as a guide to the practical treatment of almost everything that is capable of being treated by drugs. The title of Dictionary is used in its widest sense, the principle followed being to arrange in alphabetical order a series of short articles to which the name of a symptom or of a disease furnishes the title. In plan therefore it differs but little from the ordinary therapeutic index which is so often found at the end of text-books of materia medica. From such an index however it differs in the attempt to indicate not only what drugs may be employed, but also the relative amount of advantage that may be expected from them. As usual it will be found that the list is longest where the results are most doubtful and unsatisfactory. Thus five pages are devoted to the treatment of asthma, though it is admitted that the means which afford speedy relief to one patient may aggravate the paroxysm in another, and several of the drugs appear to be only mentioned for the sake of condemning them. As a rule very little is said about the symptoms of the various diseases, but occasionally this rule is usefully broken when most important hints upon treatment depend upon the etiology of the disease. Another satisfactory point worth noting is that Dr. Whitla by no means ignores the value of dietetic and other measures which may be serviceable independently of the action of drugs. Thus, under the heading of Aneurysm, Tufnell's treatment is given in some detail, while the results following acupuncture and galvano-puncture are also discussed. Again, under Diabetes the author quotes at length no less than eight dietaries which have been recommended for this condition. The utility of the general directions for the treatment of dislocations and fractures may be doubted, but the incorporation of the recommendations of the Royal Humane Society for the treatment of those apparently drowned are likely to be of service. A great deal of space is devoted to Valvular Lesions of the Heart and here the dictionary element is kept in the background; while due prominence is given to the clinical history of the various phenomena commonly associated with these lesions. The writer here permits himself to wander into the picturesque, speaking of coming to "close quarters with the enemy," of "our tried and trusty weapon," and of "skirmishing at long range," all these warlike terms seeming to arise quite naturally after the mention of a "halting ventricle." Still, in spite of these embellishments, this section supplies many useful memoranda, and it should be studied leisurely and in detail instead of being referred to hurriedly when a case of difficulty arises. Less satisfactory is the amount of space devoted to Hydrophobia; the five pages might almost be summed up in a line: "Despatch the patient to Pasteur," this being the logical outcome of the details given from Dr. Roux's statistics and from the lengthy account of the minutiæ of treatment at the Pasteur Institute.

It is impossible to criticise the book in further detail. It must suffice to say that, so far as we have tested it, the directions in general appear to be simple and straightforward. While not overlooking the importance of many of the newer remedies Dr. Whitla is careful not to be led into exaggerated statements which can only cause disappointment, and on many occasions where he quotes recent observations he does so with due reservation. The book is remarkably free from printer's errors and is printed in clear type on good paper. It is also rendered more practical by the insertion of numerous formulæ which the author has found valuable or which he has culled from other sources. In a later edition we should be glad to miss the somewhat frequent references to proprietary remedies, soaps and foods.

A Manual of Chemistry, Inorganic and Organic, for the Use of Students of Medicine. By ARTHUR P. LUFF, M.D., B.Sc. Lond., M.R.C.P. London: Cassell and Company (Limited). 1892.

STUDENTS of medicine have some difficulty in deciding upon a suitable text-book of chemistry simply because the publishers' lists teem with them. Some manuals are in their way and to an equal degree excellent, some contain prominent imperfections, others are of little or no value at all, while most of the authors generally claim to be familiar with the exact requirements of the class of reader for whom the books are intended. Dr. Luff, the author of the work before us, is fully entitled to the last claim. He has had considerable experience in the teaching of chemical science and especially those sections of the science which bear on the study and practice of medicine. This would lend additional value, of course, to a work which bears his name. All the more disappointing, therefore, is it to note that his book is marred by not a few serious blunders which we may proceed to point out *seriatim*. On page 16 we read: "The molecules of all the other elements [mercury, zinc and cadmium having been cited as examples of molecules containing only one atom] contain two or more atoms; a molecule of potassium contains two atoms and is expressed by the formula K_2; the molecule of lead, also two atoms, Pb_2"; in fact the only elementary bodies, the author goes on to say, containing more than two atoms in the molecule are phosphorus and arsenic. The fact of the existence of a hexatomic molecule of sulphur, by the way, is apparently ignored. He accordingly assumes that the molecular weights of lead and potassium, as well as the rest of the elements, are known with certainty. As a matter of fact the molecular weights or the atomic values of a molecule are only known in the case of fourteen elements, and of these the majority are either non-metals or semi-metals. By far the greater number of the elements are ordinarily speaking non-volatile, as, for example, carbon, silicon, gold, platinum, or else of such a nature that it is impossible to determine their vapour density.

As if to be in thorough discord with these statements, we find in subsequent pages iron represented as Fe_3, copper as Cu_3, lead as Pb_3, Tin as Sn_5 and so on. On page 115 the formula of nitric oxide is written N_2O_2; and accordingly its molecular weight is regarded as 60 and its specific gravity 30. Notwithstanding this it is described merely as "heavier than air" (specific gravity of air=14·4) whereas, according to the above formula, it would weigh more than twice as much. As a matter of fact the specific gravity of nitric oxide is 15, its molecular weight 30 and its formula NO, while it is a gas but slightly heavier than air. We may be pardoned. in addition to these instances, for pointing out some of the typographical errors we have noticed. Nitric acid, for example, is represented on page 117 as $OHNO_3$, and on page 501 ammonium oxalate is written $(NH_4)C_2O_2$, and sulphuric acid HS_2O_4. In the table for the examination of metals, page 499, no provision is made, it may be remarked, for the detection of a lead salt in a dilute solution. Such a solution would not give a precipitate with hydrochloric acid as indicated, but with sulphuretted hydrogen a black precipitate would be obtained. The sulphuretted hydrogen test for lead, indeed, is not even mentioned in this table. Amongst the tests for tin the beautiful purple colour (purple of Cassius) produced on adding auric chloride to a stannous salt is not included, although the reducing action of stannous salts is described.

We have quoted enough to show that the book requires very careful revision, especially if it is meant to compete with existing works of its class; it is evident that more care than has hitherto been taken need be exercised with the proof sheets, and although the general plan and scope of the work will probably appeal to those for whom it is intended, yet it cannot be safely recommended until it is freed from the flaws to which we have made reference.

Practical Midwifery: a Handbook of Treatment. By EDWARD REYNOLDS, M.D. New York: William Wood and Co. 1892.

IN the preface to this work the author, who is assistant in obstetrics in Harvard University, states that it "is an attempt to furnish to students and inexperienced practitioners a full description of those practical details of conduct which are necessary to the management of every case of gestation, labour, or the convalescence therefrom. It further aims to supply to such men a concise description of at least one method of dealing with each of the emergencies of obstetrical practice." Again, the writer tells us that "the book is mainly intended for the use of those who have already assimilated the more comprehensive but perhaps less definite information which it is the province of the systematic text-books to supply." It will thus be seen that Dr. Reynolds considers that, notwithstanding the numerous text-books on obstetric medicine which already exist, there is room for another, which is to be essentially practical. Let us see how far the book is a success in this direction, for it must be admitted *in limine* that as a scientific guide the volume is far from satisfactory. In treating of the differential diagnosis of pregnancy the author says, writing of fibro-myomata, "slight enlargements of the non-pregnant uterus from the presence of interstitial fibroids may sometimes give rise to the suspicion of early pregnancy. The distinctive points are, however, the greater hardness of the uterus where the enlargement is due to the presence of myomata, the absence of Hegar's sign, the fact that such a uterus is almost always asymmetrical and that the tumours are seldom single and therefore usually present a more or less lobulated outline." We think men of experience will admit that it is the soft œdematous myoma which most closely resembles the pregnant uterus, and of this variety our author says nothing. In calculating the duration of gestation no reference is made to the practical plan suggested by the late Dr. Matthews Duncan. In reference to the malpositions of the uterus during pregnancy Dr. Reynolds says (speaking of anteversion): "When such a displacement is the cause of annoying frequency or pain in urination, relief may be obtained by recommending the patient to pass as much time as possible in the recumbent position and upon the back; but in any case where the distress is sufficiently extreme to demand immediate relief this may usually be obtained by the introduction of a suitable pessary, such as is ordinarily used in anteversion of the non-gravid uterus." If Dr. Reynolds had first demonstrated that the annoying frequency or pain in urination was due to the displacement, there would be some ground for the treatment suggested; and when he speaks "of a suitable pessary such as is ordinarily used in anteversion of the non-gravid uterus," we must ask him, has he read the literature of the past few years on this question? Surely this bogey of anteversion may now be suffered to remain at rest.

In reference to hydramnion, the author recommends puncture of the membranes or aspiration of the uterus through the abdomen. "This latter operation, if done with sufficient care and with absolute asepsis, should be ordinarily attended by no danger and is usually the better treatment, since it may be followed by a continuance of pregnancy to term." We should like some further information on this point and an account of a series of cases in which this "better treatment" has been employed.

In his remarks on forceps operations, Dr. Reynolds says: "It is a safe rule that forceps should never be applied unless both fontanelles or one fontanelle and an ear have been surely recognised." We are afraid, if this rule were always adhered to, many women and children would suffer. We cannot agree in his recommendation of pilocarpine in eclampsia, and in his remarks on placenta prævia the author devotes too much space to the use of the tampon and too little to the method of Dr. Braxton Hicks. While we have freely criticised some parts of the book, there are others which we can most cordially praise. His remarks on "Antisepsis and Preparations for Labour," on the "Preservation of the Perineum," on the "Management of Breech Presentation," and on the "Treatment of Septicæmia," are well worth reading. In conclusion, while we cannot recommend this work as one to take the place of the many useful text-books on obstetric medicine which exist in this country and in America, we believe that teachers, practitioners and students will in its perusal obtain many useful hints.

Land, its Attractions and Riches. By Fifty-seven Authors. London: The Land Roll Office.

THE editor of this volume has persuaded himself that his object in the undertaking to which he has addressed himself is the national one of attracting capital to the land and thereby restoring the rural population, procuring a renewal of prosperity for the British farmer and both directly and indirectly benefiting commerce. His book will leave upon his readers the impression of being a very elaborately got-up circular serving to advertise the eligible properties offered for hire and sale by an eminent firm of land agents in Lincoln's-inn-fields. There is no reason in the nature of things why a business circular, drawn up in literary form, should not make a very readable and useful book; but having conscientiously discharged the reviewer's duty upon this volume, we are driven to confess that it is rather heavy reading.

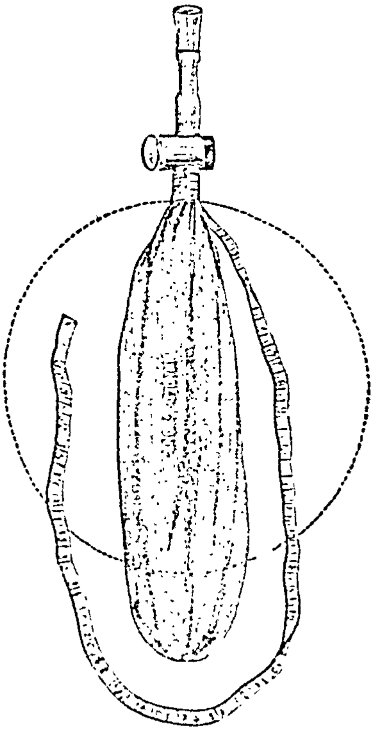
Diseases of the Nasal Organs and Naso-Pharynx. By WHITFIELD WARD, A.M., M.D. New York and London: G. P. Putnams and Sons. 1891.

THIS is a well-written little book of 165 pages. The type is good and clear and the illustrations generally [illegible] executed. By the exclusion of much that is doubtful and by a concise method of expression the author has managed to compress into this book much that is useful and important regarding what is known of nasal diseases. A judicious selection of prescriptions is here and there inserted. The size of this work forbids its pretence to be anything like a complete treatise on the subject. At the same time we think the directions for operating in some instances are too meagre and we note with surprise how little attention is drawn to the methods of operation for adenoid growths and their symptoms and pathology. This little book will, however, be a useful addition to any medical man's library.

New Invention.

A SIMPLE AND PORTABLE SPIROMETER.

THE spirometer is an instrument now little used, more on account, perhaps, of its bulk and cost than anything else. This infrequency of use may also be attributable to the fact that the instrument has one use only—viz., the capability of determining one condition—vital capacity, without affording indications of the correlating factors which modify it, and the most important of these is expiratory force. The accompanying engraving represents a very simple, practically efficient spirometer made for me by Messrs. Arnold. Its capacity will prove equal to all requirements. It consists of an elastic bag exceedingly easy to distend, with a tape affixed whereby the degree of distension can be measured. Expiratory force can be determined by employing thicker bags, which require greater effort to distend, or by making use of a broad elastic tape to surround the bag, instead of the tape generally used.



Greenhead.

JAMES MACMUNN.

THE MEETING OF FELLOWS AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

IT was scarcely to be expected that a meeting of Fellows of the Royal College of Surgeons of England summoned by the Council without any definite object in view and without any programme of business stated in the summons would lead to any definite results. If it had been originally intended to place before the Fellows all the resolutions which the Council passed at the instance of the committee which sat to consider what further advantages could be extended to the Fellows and the best mode of celebrating the Jubilee of the Fellowship; it is to be regretted that this was not done. Instead of this, the President informed the meeting that there was nothing particular to be brought forward for discussion and then invited the Fellows present to express an opinion only upon the proposals which had been made in regard to the celebration of the Jubilee, carefully excluding the more important resolutions with regard to advantages to the Fellows. Strange as it may appear, there were several Fellows present who were not aware that any resolutions whatever had been passed by the Council which concerned their interests. Consequently a natural complaint was elicited from Mr. Crosby that no notice had been sent to him from the Secretary intimating that it was the intention of the Council to celebrate the Jubilee of the Fellowship. Thereupon the President directed the Secretary to procure and to read to the meeting the report on the public celebration, which was done; but the meeting not having any organisation or cohesion, and having assembled in a spirit of curiosity and readiness to receive whatever might be vouchsafed to them, did not show any signs of a desire for more substantial fare. A long pause ensued, and but for the intervention of Mr. Holmes the assembly might have dispersed without any discussion. Mr. Holmes rose to express his gratification at the action of the Council in calling the Fellows together, his approval of the arrangements for celebrating the Jubilee of the Fellowship, and to call attention to the desirability of the Council consulting the Fellows of the College before coming to a decision on matters of great professional interest and importance, instancing the University question and the five years' curriculum. His remarks were couched in a friendly and courteous vein and there was nothing to invite the attack which was made on him by Mr. Christopher Heath. Most gladly should we have abstained from alluding to the subject if a sense of professional duty did not compel us to deprecate the spirit and substance of Mr. Heath's remarks, and we shall only add that the sense of the meeting was admirably expressed by Dr. W. J. Collins, who in a few well-chosen words expressed his deep regret at such an episode occurring at a friendly conference at which it was understood that the hatchet was to be buried. Dr. Collins concluded with a suggestion, of which Mr. Howse expressed his approval—viz., that the Fellows should choose a body like the annual Committee of Convocation of the University of London to consider questions affecting the interests of the Fellows and to be the medium of communication between the Fellows and the Council. Before another meeting of Fellows is called we must hope that the Council of the College will see its way to adopt regulations under which the proceedings may be conducted in a formal and businesslike manner. We trust also that the President or other chairman at these meetings will not allow personal attacks to be made in the future.

VICTORIA INFIRMARY DISPENSARY, GLASGOW.—The ceremony of inaugurating the dispensary in St. James-street, Paisley-road, in connexion with this infirmary, took place on the 4th inst. It had been for some time the intention of the governors to establish district dispensaries on the south side, but hitherto they had no funds to spare for that purpose. Under these circumstances Mr. A. Cameron Corbett, on behalf of himself and his sister, had presented the governors with 1000 guineas, which would enable them to equip the dispensary and work it for the next three years. It will be opened to the public on Wednesday next.

THE LANCET.

LONDON: SATURDAY, JULY 16, 1892.

THE result of the election to the Council of the Royal College of Surgeons of England which took place last week, gratifying as it is to ourselves, will be eminently satisfactory to all who are interested in the welfare and good government of the College. That Mr. THOMAS SMITH would head the poll was in accordance with general expectation and his success was thoroughly deserved. Mr. DURHAM'S re-election was by no means so certain and he received 82 votes less than Mr. THOMAS SMITH and 34 votes less than Mr. JOHN TWEEDY, who polled 237 votes (including 21 plumpers) and was second on the list of successful candidates. Mr. HOWARD MARSH, who received 200 votes and not a single plumper, and who took the fourth or substitute seat, was closely pressed by Mr. HENRY MORRIS with 188 votes (including 8 plumpers). At a considerable distance followed Mr. JEREMIAH MCCARTHY with 106 votes (8 plumpers), Mr. WILLIAM ANDERSON with 90 votes (1 plumper), Mr. MACKELLAR with 86 votes (3 plumpers), Mr. WARRINGTON HAWARD with 77 votes (including 18 plumpers), and Mr. GEORGE COWELL with 75 votes (4 plumpers). The total number of valid votes was 516—an increase of 73 over last year, when considerable apathy prevailed—and out of the 516 votes the number of plumpers was 74. With so many candidates and so uncertain an issue it was felt in certain quarters that the right course was to plump for a candidate whose return was specially desired lest he might lose his seat if the votes were split. Hence it was that Mr. TWEEDY received 21 plumpers; but as it happened there was no need for this precaution, and had these 21 votes been split in favour of Mr. HENRY MORRIS that gentleman would have been elected in company with Mr. TWEEDY and have stood third upon the poll. We have always deprecated the practice of plumping and it is satisfactory to note that in the four elections that have taken place under the new regulations it has not secured the return of a candidate. In 1889 there were only 33 plumpers out of 600 votes divided amongst eight candidates. In 1890 there were 92 plumpers out of rather more than 500 votes divisible among seven candidates, and no less than 53 of the plumpers were given to Mr. MITCHELL BANKS. Even this number of plumpers did not affect the result as regards Mr. BANKS, for he had a remarkable success, being nó less than 141 votes in front of Mr. MARCUS BECK, who was second on the poll. If the plumpers had been split with the other provincial and progressive candidate, Mr. LAWSON TAIT, he would have gained the third seat at the election. In 1891 the plumpers were only 46 among five candidates and they made no difference in the position of the candidates in whose favour they were recorded.

The combinations of votes given at the present election were very instructive. Some voted for the four senior candidates, some for the four juniors; some voted only for candidates at the same hospital—St. Bartholomew's or St. Thomas's, for instance; some voted, as advised in THE LANCET, for the four candidates whose views were known to be favourable to the elevation of the Fellows: some voted for the four official candidates and some for the two most progressive candidates. But one circumstance could not fail to be remarked—namely, the greater frequency of Mr. TWEEDY'S name in the various combinations as compared with that of any other candidate. Mr. THOMAS SMITH received the official vote, the senior vote, the hospital vote and the progressive vote, but Mr. TWEEDY'S votes were still more varied. The one great feature indeed of the election was the brilliant success of Mr. TWEEDY. Let it be remembered that Mr. TWEEDY was the junior Fellow, that his name was last on the list of candidates, that his success was not desired by the official party and that his name had been associated with advanced measures of reform, and his election not merely to a seat on the Council, but over the heads of Mr. DURHAM and Mr. HOWARD MARSH to the second position on the poll, assumes an importance which it would not otherwise have possessed. A tribute it is to his sterling qualities and his personal merit, but it is also a significant intimation to the Council that a large and influential body of the Fellows are in favour of the views which have been advocated by the Association of Fellows (of which Mr. TWEEDY has been a most prominent member since its first formation) and which have been unceasingly advocated in the columns of THE LANCET. Those who decry the influence of the Association, or the progress which the views of the Association have been making within the last two years amongst the Fellows of the College, may yet find reason to alter their opinions, and to be satisfied that the time has come for making real and substantial concessions to the Fellows of the College. The records of the poll prove how easy it would have been for the Association to secure two seats this year, and with good candidates it is not unlikely that in the next election such a result may be secured.

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THE disastrous landslip on the line between Bologna and Florence, the serious casualty of the same kind on the Vorarlberg railway, the appalling explosion on board the steamer on the Lake of Geneva, and the terribly destructive inundation near Chamonix, are the more outstanding from among a series of calamities which, occurring at the very opening of the holiday season, cannot fail to prove deterrents to the intending tourist in Italy, Austria and Switzerland. Whether these casualties were to be anticipated, or to what extent they were preventable, will doubtless be elicited at the official inquiry about to be opened on each of them. Murmurs, indeed, in the case of the first three, are already audible as to a more than probable neglect of duty on the part of railway and steamboat managers alike. Whether this be correct we cannot judge, but in Italy the public press has asserted that the "accident" on the Bologna line was no accident at all; that the landslip was a long-admitted danger of which warning had been given years and years ago, and that the reluctance to incur immediate expense, so characteristic of Italian enterprise, is responsible for an engineering inactivity the reverse of masterly. Strictures to the same effect may be gleaned from the accounts given of the steamboat disaster in Switzerland

The boiler is alleged to have been lately examined by an inspector, who is said to have "found cracks in it," but thought "it might run for another year." The Austrian contribution to this tale of casualties has also its candid critics, while it has got to be cleared up whether the Chamonix cataclysm was not more due to man's neglect than to "the visitation of God." Pending official investigation, we repeat, it is not for us to appraise the justice or the injustice of such charges, but the remark may surely be permitted us that if neither regard for public safety nor consideration for private interests can avail to deprive continental transit of its dangers, the inducements to venture life and limb along these familiar lines of route are very appreciably lessened. Of the three countries in which these "accidents" have occurred, Italy, Switzerland and, in a lower degree, Austria are dependent on the tourist season for a large proportion of their yearly revenue. The wave of travel which sweeps over them every summer or winter has in their case been likened to the inundation of Lower Egypt by the Nile—a visitation beneficent for all. But the deflecting of the Nile river above Khartoum and its diffusion over the surrounding desert would not be a more suicidal operation for Egypt than the wanton scaring away of the English-speaking visitors would be for Italy and Switzerland. A few more such disasters as those which have brought death and suffering worse than death to the travelling public on the Bologna route, and on the Lake of Geneva, and Italians and Swiss will have but themselves to blame for a loss of income which neither can afford to incur and at the same time live and thrive.

Last year there was quite an epidemic of railway accidents in Switzerland and on at least one very important line the shareholders had to submit to a total suspension of dividends. In Italy catastrophies of the same kind were far more frequent than usual. But in the case of both countries these were due to their traditional causes—collisions or landslips. Now, however, a new development of railway engineering has opened up fresh sources of danger, just long enough in operation to have given some earnest of the frightful consequences which neglect or failure on the part of an overworked and underpaid service may entail. We allude to the electric railways connecting the low-lying plain with the upland regions of the Alps and Apennines. Many of these are triumphs of engineering skill, in which the water-power of mountain torrents has been utilised for the generation of electricity required to "balloon" the passenger from lake or champaign to hill-plateau or aerial peak. The convenience of such modes of transit is immense, a few minutes sufficing to waft the tourist and his *impedimenta* up the mountain-side to its top, a destination which formerly could be reached only by long hours of toilsome zigzagging in a diligence or on muleback. But the risks are also tremendous. In Switzerland who can have failed to observe a hill-side railway looking at a distance like a fire-escape propped up against a precipice and relying on the steadiness of its engineering safeguards to ensure the train against backing down with a run into the lake or the ravine below? Not many months have elapsed since the electric tram-service from Florence to Fiesole, on its descent from the latter terminus, got quite beyond the conductor's control and crashed into a roadside wall with its living freight, of whom the majority were either killed on the spot or maimed and injured for the rest of their lives. True, the precautions taken in such modes of transit are manifold; but the risks of accident are not less so, and who can say whether the casualties which have of late years multiplied on the familiar Swiss and Italian gauges, broad or narrow, may not have their counterpart in those mountain railways worked on principles so complicated and requiring an inspection more vigilant and a renewal of material more constant and thorough than the company's returns can well afford?

Of the sanitary dangers to which the English-speaking visitor is exposed—much less, it is fair to say, in Switzerland than in Italy—we have already treated. Year by year witnesses an improvement, even in the outlying tracts of the Italian peninsula, on the mediæval hotel appointments and service with which the sojourner in search of sun or rest had often to put up with. But this year we are more than likely to see a descent of cholera on the Mediterranean shores, with the authorities at the various seaports hardly more prepared for meeting it than formerly. Disbelief in quarantine and sanitary cordons is now, thanks to an enlightened hygiene, pretty well established in those regions. We wish we could point to a compensating advance in their public or personal cleanliness, in pure and abundant water-supply, or in a really effective system of drainage. One department of public health, it is just to indicate, the Italians have at length put on a satisfactory footing—we mean the protection of food and drink against deleterious counterfeits. The energy of the State inspectors in detecting adulterated bread stuffs, tainted meats, "falsified" wines and bogus mineral waters, and in summarily bringing their authors to justice, if it has shown the extent of the hitherto permitted evil, has also proved the thoroughness of the repressive measures brought to bear upon it. The extension of such real public service to other departments equally important in the common interests is imperatively required to reassure the English-speaking visitor or resident. Let such clients of the sunny south or of "the playground of Europe" be persuaded that they can reach their destination not only in comfort but with safety, and that when arrived there they will run no avoidable risks of disease, endemic or imported, and a satisfactory *modus vivendi* will soon be re-established, to the mutual advantage of entertainer and guest.

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THE out-patient system has been let off easily by the Committee of the Lords. This is especially the case in the final portion of the report. Still a great mistake will be made if attention is not given to the evidence on this subject and to some of the admissions of the Committee in regard to it. We have already referred in a general way to the conclusions of the Committee on it, but the out-patient department is so huge and important in its bearings that we deem it necessary to revert to it again in more detail. The very existence of the out-patient department is of comparatively recent date, and in the hospitals of Edinburgh it does not exist. There they have a far larger proportion of medical students to their population than we have in London and also abundance of poor, but somehow or other the system has not taken root. In the metropolis it has assumed vast — nay, alarming — proportions, so that all, whether from a social or a medical standpoint, are calling for some limit to be put to it; and not a few advocate its entire abolition. At the London Hospital 100,000 patients a year are treated, at St. Thomas's Hospital 25,000, at the Middlesex Hospital 38,000, at University College Hospital nearly 40,000. These numbers are spoken of with pride rather than with doubt, as if the hospital authorities were quite sure that they were doing right, and knowing well that the figures strike the public and move the charitable, who are not too inquiring in their turn of mind. At Guy's Hospital on a busy day 480 outdoor patients are attended to, including casualty cases. It is a libel to say that patients are seen at St. Bartholomew's Hospital at the rate of one a minute, for it was estimated that, deducting the casualties (which are seen only by the resident staff) and the more serious of the out-patient cases, three or four minutes are devoted on the average to each of the remainder. The Committee admit that the number of persons coming for out-patient treatment often puts a strain on the powers of the staff. Some of the most doughty defenders of the out-patient department further consider that the vast majority of the cases are trivial and that the patients need only to be told to continue the treatment. The Committee go even further and say: "The majority of persons who present themselves at the out-patient department of a hospital come with trifling ailments *which are quite unsuitable for hospital treatment.*" The italics are ours. It is a resort according to some not only of the ailing, but of the idle and those who simply want to talk. At some hospitals the social aspects of the department are made still more attractive by the establishment of refreshment bars or coffee stalls.

The detention of those who are really ill in the out-patient rooms is an objection touched by the Committee, but not satisfactorily disposed of. The Committee suggest the incidental advantage that such delay may have in deterring unsuitable cases. This is just what on their own showing it does not do, seeing that the numbers go on increasing, including a majority quite unsuitable for hospital treatment. Those who are really ill suffer all the disadvantages of a rough and tedious system of attendance which attracts hundreds of thousands of unfit cases. The Committee, their "Conclusions" notwithstanding, have thus given strong confirmation to the belief of medical practitioners that the out-patient department is one that should be greatly curtailed in its proportions, and brought into touch with more self-respecting methods of treating sickness in the working classes. The Committee go with much detail into the further arguments against such wholesale arrangements. They deal with the objection that such a system is not only destructive of self-respect and providence in the poor, but is a gross injustice to the general practitioners who work in the crowded and poorer districts of London and the hardships and self-denial of whose life are known only to themselves. "A witness" was examined who expressed the opinion that the practitioners injured by the wholesale competition of the hospitals were not those whom it was generally desirable to protect. We are glad that such evidence proceeded from "a witness." We should be sorry to think that any plural number of witnesses throw doubt on the obvious fact that such hospital arrangements must operate against all practitioners. The Committee themselves admit as much in the following sentence under the head of Sweating of General Practitioners (p. 32, third report, 12): "The competition of free treatment would naturally tend to drive down the fees of the private practitioners, and this was stated to be an urgent evil and one which has been going on for ten or fifteen years." It cannot be denied by anyone whose eyes are not wilfully closed that between the attractiveness of out-patient departments and the introduction of petty payments by out-patients, conveying an idea that they are purchasing advice and medicines, the creditable reluctance to go to hospitals has been much broken down and that the medical practitioner has more and more been made a mere convenience chiefly at nights and in great emergencies. In days when working men did not get such good wages as they do now, numbers of them regularly employed and honourably paid a neighbouring private practitioner, who knew their children and acquired that knowledge of their family health and circumstances which doubles the value of medical attendance. The breadwinner himself might be in a club, but a reasonable midwifery fee and a pound or two moreover for the family doctor were easily and cheerfully provided. The great hospitals and the little ones are doing a great deal to upset such an honourable system and the fact is as good as admitted by the Lords' Committee, who go carefully into proposed remedies without much apparent confidence in their sufficiency, and who withhold that word of efficient condemnation for so huge an abuse which we think was expected of them. Inquiry into personal circumstances, limitation of numbers, and payment by patients to hospitals are each reviewed. In Manchester, as is well known, the unfit cases have been weeded out by an efficient system of inquiry and the numbers greatly reduced. In London such is the scale of population and the difficulty of estimating the status of the applicants that little effective work has been done. In 22,000 cases at the London Hospital inquiries were made in 800, or 1 in 27. What are these among so many? We can only remind hospital authorities that this great blot in their administration remains. The Committee have fastened responsibility for it upon them, and they will not be allowed to escape criticism till it is wiped out, and charity for really fit cases is encouraged by careful elimination of the unfit.

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THE BOWMAN Lecture of the Ophthalmological Society was this year delivered before a numerous audience by the distinguished Professor of Ophthalmology at Heidelberg. THEODOR LEBER. For many years past Professor LEBER has been engaged in working out the pathology of the inflammatory process, which can nowhere be studied to greater advantage than in the cornea; and it is not surprising that he took that subject for his theme and presented to his hearers in a condensed form the contents of the large and important work he published a few months ago, the chief points in which we recently translated for the benefit of our readers. After a brief but appreciative reference to Sir WILLIAM BOWMAN and to the loss sustained by the *profession* by his death, Professor Leber acknowledged at once that we are indebted to Sir Joseph Lister for the proof that the purulent inflammation following an injury is caused by inoculation of micro-organisms within the wound. Further inquiry has led to the discovery that their capability to give rise to inflammation and to disease in general depends upon the production of certain poisonous substances which in infinitesimally small quantities are able to cause inflammation and necrosis of the tissues of the body; whilst, on the other hand, the presence of an inert foreign body introduced antiseptically into the tissues leads to no inflammation whatever. Nowhere can this be more clearly shown than in the eye. If a small piece of gold or glass be introduced through a slight wound with due antiseptic precautions into the anterior chamber of a rabbit's eye no inflammation is excited, no pus is found, and this foreign body may continue visible for months or even years either in the aqueous or in the vitreous, which remain unclouded. From this fact it was easy to draw the conclusion that suppuration is only produced by the specific action of micro-organisms. Unfortunately, however, further experiment soon presented stubborn facts which militated against this theory; for a single drop of mercury, rendered absolutely sterile by heat, antiseptically introduced into the anterior chamber of the eye of an animal always gives rise to a circumscribed collection of pus in its immediate neighbourhood, which is distinguished from that which is produced by micro-organisms by the entire absence of microbes which can be shown by the microscope, or which can be obtained by culture experiments. But mercury is not the only substance that can induce suppuration. Metallic copper is equally potent, though Professor Leber has observed remarkable differences in the effects produced according to the part which may happen to come into relation with the metallic fragment. Should it rest either on the iris or inner surface of the ciliary body, suppuration will certainly be produced; whilst a similar fragment produces no pus when situated in the lens, where it does not even produce complete opacity. The reason of this difference, he shows, lies in the fact that the fragment of copper when situated in the lens is completely enveloped by a thick coating of albumen which effectually prevents it from exercising its irritating chemical action. On the other hand, when in contact with vascular tissues copper immediately acts upon the vessels, an effect that is probably due to the copper being dissolved by the fluids of the eye, on which fact its power of provoking inflammation depends. One of the commonest causes of suppuration—the staphylococcus aureus—readily furnishes proof that its action depends upon chemical substances, for if a pure culture be perfectly sterilised the fluid containing them can still produce an intense purulent inflammation when injected into the anterior chamber.

The study of septic inflammation of the cornea shows that the action of the micro-organism extends far beyond the area of its development, so that, as Professor Leber remarks, a sort of distant action must take place. The lecturer then proceeded to describe the keratitis caused by inoculation of micro-organisms. He took the case of a microbe developing in the centre of the cornea and showed that the effect in the area directly attacked consisted only of retrogressive changes in the cells ending in necrosis. At first, if the action of the microbe is sufficiently intense, neither migration of the leucocytes nor proliferation of the cornea cells takes place; but after a time there appears a zone of dense infiltration of pus corpuscles—which are in reality white blood-corpuscles,—which affects more or less the entire thickness of the cornea. This is due to the disposition of the leucocytes to move towards the place of the greatest concentration of the exciting substance, but as they are making their way towards the microbic area, stimulated to movement by the slighter concentration of the poison, they fail to reach it, because whilst still at a distance their movements are paralysed through the intensity of the toxic action and the cells have perished. We thus find an explanation of the central necrosis in cases of septic inoculation of the clear ring which surrounds this area and which is saturated with the poison, and of the opaque purulent area formed by dead leucocytes. The lecture is highly suggestive and reflects great credit on Professor Leber.

Annotations.

"Ne quid nimis."

VITAL STATISTICS OF LONDON.

In view of the increasing importance of and interest in the health of London, we publish to-day the first of a series of monthly articles dealing with the vital statistics of the metropolis, with special reference both to sickness and mortality in each of the forty-one sanitary districts of London. The returns of notified cases of infectious disease and the mortality in each of these sanitary areas are published in a table specially compiled for The Lancet; and in order to render the information more valuable for comparative purposes the sickness and mortality rates in each district have been carefully calculated on populations based upon the recent census. The populations of these areas are now accurately known, and as the mortality figures in the table relate to the deaths of persons actually belonging to the various sanitary districts, the rates based upon them are therefore trustworthy and serve to show the true mortality in the various sanitary areas. The progress of any epidemic can be readily traced, both as regards its prevalence and its fatality, in different parts of London.

A TEACHING UNIVERSITY FOR LONDON.

The Royal Commission which is now sitting, after having heard a considerable number of witnesses dealing with various secondary points, is now approaching the crux of the whole question. During the next week representatives of University and King's Colleges, of the Royal College of Physicians—the Royal College of Surgeons having already been heard—and of the London medical schools will give evidence. We would remind our readers that whilst the higher education in London is of the gravest importance and every method of improving it merits the fullest investigation, the practical question of how London medical students are to obtain degrees on terms equivalent to those on which such degrees are granted elsewhere must not be left out of consideration. A University which cannot solve this difficulty must obviously fail from want of support by the medical profession. Surely if every capital in Europe except Constantinople and London has a local Teaching University with power to grant degrees to its students, there is no reason why London should not wipe out its reproach. The present University of London is a cosmopolitan examining board, nothing more, nothing less, and it does its work excellently. It is as far divorced from all connexion with teaching as such an institution can possibly be, and it is therefore easily intelligible why teachers have risen in revolt against it. There are several practical points which must be carefully considered. Three schemes apparently have some support and of these two are old and one is new. The old schemes are those embodied in the proposals of the Senate of the University of London and in the Charter for a Gresham University passed last year by the Privy Council, but defeated in the House of Commons. The desirability of a single University in London is evidently an important consideration in the minds of many who have given evidence or have written articles on this subject. It is clear, however, to us that the existing University, with its traditions, its freedom from local influences and its high standard for degrees, can neither so change itself as to become a local Teaching University nor introduce into its constitution the necessary changes which would allow it to perform such duties. The Gresham Charter had the advantage of being a compact scheme, *federalising the two teaching colleges and the ten medical* schools whilst it presented no obstacle to their fusion for purposes of scientific teaching and allowed of every facility being given for the appointment of special professors to give instruction in the higher subjects wherein they had made original researches or in which they had attained special eminence. The new scheme is put forward by an "Association for Promoting a Professorial University for London." In this the federal principle is objected to and a centralised scheme is advocated. The leading propositions are thus laid down: "1. The University to be governed by a Senate composed of the professors and of a certain number of laymen to be nominated by the Crown. 2. The professors to be nominated in the first instance by the Crown, but afterwards by special standing boards of experts appointed for that purpose by the Senate. 3. The University to have power to absorb existing institutions of academic rank in London, due provision being made for protecting the interests of the present teachers in such institutions and for preserving the character of special trust funds. 4. The University to have the power of appointing readers and lecturers, either to supplement the teaching of the professors or to deliver graduation or other courses of lectures within the metropolitan area. 5. The degree examinations to be conducted by the professors of the University, acting in conjunction with other examiners to be appointed by the Senate; and no candidate for a degree *to be admitted for examination without having attended the* lectures of the University teachers for a prescribed period, which shall not be less than two or more than four years." It is further suggested that the medical faculty should be placed on a basis essentially differing from that of the other faculties. The scientific education of the medical student would apparently fall into the hands of a single professor in each subject and his assistants, and it is by no means clear whether sciences such as anatomy, physiology and pathology are to be included or whether the preparatory extra-professional sciences of biology, chemistry and physics are embraced in the scheme. In either case the powers asked for are too large. The number of medical students in London is so great that a centralisation such as is asked for would be deplorable. Three or four competing institutions would be the smallest number even for scientific training that we could recommend for London, and with regard to clinical instruction, provided the amount of clinical material were sufficient, the greater the number of influential and active teachers, the more advantageous would be the result to the student of medicine. There is truly a waste of teaching power in the metropolis, but even this is better than the possibility of a stagnation on the part of the professoriate and an indifference to the daily requirements of the medical student owing to research monopolising the teachers' attention. We fear that a Senate appointed by boards of experts, without regard to teaching institutions and without regard to the ordinary teachers, could only tend to such an unfortunate result. The power of absorbing existing institutions—e.g., medical schools—can only have been asked for by idealists and not by persons who have an adequate knowledge of the various institutions interested in this question. Those engaged in medical and other sides of technical education must at once see the difficulty of agreeing to such a proposal for a city the size of London and will be sure to oppose its adoption by every means that is in their power. It is a worthy ideal, but considering the immense number of institutions which in many ways educate up to a University standard such a centralised scheme can only exist in "cloudland."

CHOLERA PROSPECTS.

IN so far as European cholera is concerned the centre of interest now lies in and around Paris, and the urgency of the question is considerably accentuated by the fact that official records *as to the "choleraic"—so-called—prevalence* in the suburbs of the French capital suddenly ceased three weeks ago and that their cessation has been synchronous with the highly suspicious circumstance to which our special correspondent drew attention last week and on which in our present issue he again comments strongly. For considerably over a month an epidemic has been going on in the vicinity of Paris which is attacking adults, which has definite characteristics of cholera, which is, so far as can be judged from the statistical information that transpires, as fatal to those attacked as many an epidemic of Asiatic cholera, and concerning which all official announcement has either suddenly ceased or is limited to such statements as the one made by Mons. Laubet, the Prime Minister, to the Chamber of Deputies on the 12th inst., to the effect that all necessary hygienic measures are being taken. So far as news has been forthcoming it is to the following effect. Diarrhœa of a very fatal character prevailed in some of the suburbs of Paris, especially included in the loop of the Seine to the west of the capital towards the end of May and early in June. On June 23rd twenty deaths had just occurred from so-called cholera nostras, Nanterre, Suresnes, Puteaux and St. Denis being effected. By July 1st the epidemic had since its commencement caused 159 deaths. Then came more detailed news as to the number of deaths in the various suburbs, and in new places attacked such as Aubervilliers, Quatre Chemins, La Corneuve, Courbevoie, Asnières, Clichy, Rueil and Colombes; but it was announced that Paris itself within the fortifications remained free. By July 4th fresh places such as Levallais and Genevilliers were attacked. Next day ten fatal attacks were announced, and Neuilly was added to the list of localities infected. On the 6th and 7th there seems to have been a marked increase in the number of attacks, and besides this it was announced that between July 1st and 6th as many as 37 cases out of a total of 68 had terminated fatally. This in itself is sufficiently alarming for a diarrhœal disease in Europe and in the minds of many it mattered little what qualifying adjective was used to designate this "cholera." Argenteuil and St. Ouen were now also attacked; indeed, the disease was reported to include twenty-four villages. On July 10th it was reported that Paris itself had become involved, although it was difficult to understand to what extent, owing to an apparent confusion between cases and deaths. At Aubervilliers four deaths took place on the 11th inst. This information cannot pretend to accuracy, for owing to the official silence it has had to be gathered from the ordinary public press. Whatever its source, it is evident that the Local Government Board look upon the intelligence, combined with the ominous silence referred to, as justifying the immediate exclusion of rags from France. Some, indeed, reached Folkestone under such suspicious circumstances that the President of the Board issued a special order prohibiting their being moved inland; and since then a general order prohibiting the importation of all rags from France has been published in the *Gazette*. Evidently the authorities at Whitehall regard the state of affairs around Paris with the gravest suspicion; and everyone must admit that circumstances such as we have detailed are especially serious at the present season of the year. Accounts from eastern Europe are also very disquieting. Cholera continues to extend both in Transcaucasia and in a north-westerly direction from Astrakan and Baku. Perhaps the most serious matter in prospect is the intended fair at Nijni-Novgorod commented on in another column, for cholera has since our last report spread further up the Volga to Simbrisk, and thence to Kazan. Cases are also alleged to have occurred in the province of Kostroma to the north of Nijni-Novgorod. The Local Government Board have also issued an order prohibiting the importation of rags from all ports of the Black Sea and the Sea of Azov, as also from all ports of Turkey in Asia. The order takes effect at once. Pending the further development of the present state of affairs sanitary authorities everywhere will do well to remove all causes tending to pollute air, water and food.

OCTOGENARIAN PREMIERS.

We can only speak at present in the singular number. So far as our knowledge of English history in this century and the last goes there has only been one octogenarian premier—Lord Palmerston—who died at his post in his eighty-first year. Several of our eminent statesmen in this century—not one in the last—who had in their time been Prime Ministers attained to this longevity. Henry Addington (Lord Sidmouth, son of Dr. Addington) died at eighty-seven, the Duke of Wellington died at eighty-two, Lord Grey at eighty-one, Lord Russell at eighty-six; but long before their decease they betook themselves to that "blest retirement" which the poet tells us is such a "friend to life's decline." We are no politicians, but we cannot be insensible to prodigies of power at fourscore. In this sense we regard with keen interest the recent mental and physical feats of Mr. Gladstone in his Midlothian campaign. He has already "beaten the record," and if he is to be again Prime Minister of England we shall regard the achievement as one of which the English race may be proud. Such a statement involves no medical approval of men even of Mr. Gladstone's strength engaging in political strife at eighty-two. But from a physiological point of view such power and pluck can only excite admiration, and we heartily hope that they may suffer neither harm nor discredit by the experiment.

THE CASE OF MR. WALTERS OF CHELTENHAM.

We publish in another column resolutions of the Poor-law Medical Officers' Association relative to the suspension of Mr. Charles A. Walters, medical officer of the second district of the Cheltenham Union, an appointment which he had held without complaint or fault for the long period of thirty-eight years. The matter is of still more sad interest, as Mr. Walters died on the 8th inst. The case is a very simple one. Even in its issue there is nothing serious save in its bearing on the unfortunate medical officer. The facts are as follows: A little girl came to Mr. Walters on a Sunday morning, April 3rd, at 11 o'clock with a note from her mother requesting him to see her sister. He asked if she had brought an order from the relieving officer and she said no. Mr. Walters then said "mother must send me an order or come and see me and tell me what is the matter." The relieving officer was so near that he could be communicated with in half an hour. Meantime Mr. Walters suggested that her mother might give the sister a dose of castor oil. In the evening, at nine, a Mrs. Robinson called and demanded Mr. Walters' attendance in his capacity of medical officer without an order or relief ticket. She negatived the idea of his attending in any other capacity by stating that she would call in another doctor—a course the mother would seem quite able to have taken, seeing that within the last twelve months, since the death of her husband, she had received over £100 from benefit societies and had, while receiving a weekly grant from the Cheltenham guardians, £30 deposited in the savings bank. On calling next day to see if an order had been obtained Mr. Walters found that the child had been removed with a very mild attack of scarlet fever, from which in a month it had practically recovered. Such is this case. For declining to attend without an order Mr. Walters was suspended by the guardians and "severely censured" by the Local Government Board. We do not remember to have heard of a case where such dire punishment was meted out to a medical officer for doing what was certainly within his right and even his duty. It is undeniable that the mother of this child was able to pay a medical man and that she sent no order to Mr. Walters to attend in his capacity as medical officer. For declining to do so this faithful servant of thirty-eight years' unblemished character is censured and suspended. We cannot admit that the mere suggestion of a dose of castor oil amounted to an "acceptance of responsibility" for the case, on which theory the Local Government Board founds its censure. We look to the Local Government Board to defend medical officers, and we have had pleasure often in recording that the Board has stood by them. But in this case there seems to have been a terrible failure of duty. Instead of censuring the guardians for giving relief to a person receiving £100 in a year, they censure the medical officer for requiring legal proof of her claim to be treated as a pauper. We cannot defend such action in a Government department, and if unexplained and unatoned for we prognosticate injury to the service. Medical officers under the Local Government Board have their rights as well as their duties. We heartily support the action of the Poor-law Medical Officers' Association. Nor do we think they should be left alone to protest against such treatment of a medical officer of thirty-eight years' standing. The Corporations of the profession should join them and claim for Poor-law medical officers the same justice that they would claim for medical officers of the Army or Navy. We commend this very hard case to the consideration of the Presidents of the two Royal Colleges, unless, as we venture to hope, the Local Government Board and the guardians will reconsider their judgments.

SCHOOL CHASTISEMENTS.

Some grown persons would seem to think that there is no true place for chastisement in a system of education. Such at all events is our impression of those, and there are many parents among them, who regard an ordinary beating given in school as almost an indictable form of assault. People of this kind have evidently forgotten the singularities of their own wayward youth, or perhaps their lives knew only a genial and untroubled springtime of good conduct. In neither case can their judgment be relied upon to form a rule of discipline for the guidance of school teachers. The bad boy will continue to deserve, and to repay with better behaviour his needful thrashings, and even the good boy will sometimes err and will profit by corporal reproofs. The truth about physical punishment, we may take it, is that it is indispensable—an evil perhaps, but a necessary one. It must be borne, but in order to attain success with the least possible amount of injurious friction it must also be regulated. There must be no impulsive pulling about, no random strokes with the hand or the ruler, no ear-boxing with its probable sequela—the ruptured tympanum. The head should never be struck, not even slapped. We may say the same of the body, but for one most tender but safely padded prominence which appears to mark the naturally appointed seat of childish affliction. We need hardly emphasise the importance of guarding jealously against all displays of temper while inflicting punishment. No doubt this is difficult with refractory children, but such a degree of self-government as will enable parents or teachers to avoid the angry moment is nevertheless requisite for success. A case occurred lately which illustrates this point. It was that of a boy who was beaten about the back and hand the day following a school misdemeanour. Singularly enough, he injured his head next day, and being at the time in poor health, though believed to be well, he died in a week from tubercular meningitis. At once his teacher was blamed; but proof being brought that the chastisement inflicted was deliberate, orderly and proportionate, though the means employed were not quite regular, he was entirely exonerated at a subsequent inquest. It would indeed, in many cases, render the duties of a schoolmaster as barren as difficult if he were not allowed a reasonable freedom in physical correction. The possible occurrence of such incidents as the above must, however, impress what we have said as to method in its application.

"CURES" FOR INEBRIETY.

THE special report of the meeting of the Society for the Study of Inebriety, on the 5th inst., which we published in our last week's issue, shows very clearly how necessary it was that we should give the profession and the public a timely warning against these secret cures. Dr. Keeley was unable to attend the meeting. Dr. Usher of Melbourne gave details of the method in which the so-called cure had been worked at Dwight, U.S.A., of the immense sums spent in advertising the institution and the cost of the preparation used—viz., thirty-six shillings for two bottles. Further, Dr. Norman Kerr laid before the meeting an analysis stating that the preparation contained neither gold nor chlorides, but 6 per cent. of sugar and 27·55 per cent. of pure alcohol. We quite agree with the members present that "so-called 'cures' for inebriety, the composition of which is not disclosed, are unfit to be commended by honourable members of the medical profession." Inebriety is a disease of which the treatment is as well known to the profession as is that of morphinomania or any similar habit, and it is only by legitimate and open treatment that it can be cured. There is no patent remedy for it, nor is there ever likely to be. Unfortunately, the unhappy sufferers and their friends are always asking for a specific and so they readily become the dupes of some ardent and unscientific believers in a method, or, worse still, of those who trade on their weakness.

"ELECTION FEVER."

IT may not be inopportune during the turmoil of the general election to call attention to some of the dangers attending ill-regulated enthusiasm and irrational excitement. This appears to be the more necessary as already several fatalities attributable to these conditions have been reported. In the one case an elector died suddenly on the declaration of the poll, in another suicide is stated to have been the more tragic consequence, and yet another died through the excitement of the election. Danger under these circumstances is naturally both physical and moral and in some instances these causes are doubtless combined. Irregular and injudicious meals and irregular and insufficient rest are ever fruitful causes of that silent sap of energy which at the supreme moment causes it suddenly to fail, and a weak heart may then as suddenly cease to beat, or flicker out in futile palpitation. If to such purely physical dangers be added the still further strain of persistent anxiety, and its frequent consequence, defective sleep, it is not difficult to appreciate the unexpected loss of that calm control of both body and mind which flows from the presence and consciousness of a reserve of force. To indicate these causes is not only to point out their natural effects, but also, to reasonable men, the lessons they convey. To those engaged in the work of the elections personal hygiene of the most careful order is of the first importance. Regularity in the storage of force and care and calmness in its expenditure are the secret of many a victory. "Those who strive in the games are temperate in all things," and the game of a contested election tries both mind and body severely. Nervous constitutions, wrought to a high pitch by the eloquence of party leaders or by the impulses of self-interest, are specially liable to sudden catastrophe, and it would be well for all such to remember, like one of Bulwer Lytton's characters, that the country has survived many unparalleled crises, and will yet survive many more quite as unprecedented. Moreover, to aggravate the causes of agitation by importing further sources of interest and unrest, such as betting on the issues involved and in other ways working up to fever heat the political furor, is very unwise in excitable persons. It is to point out these self-evident considerations which, nevertheless, are too apt to be forgotten at times of public excitement, that we have deemed it our duty to call attention to this matter.

APPARENT DEATH IN CHOLERA.

THE approach of cholera is already bringing much disquietude to the nationalities of Southern Europe, particularly to those who people the Mediterranean shores. The Italian, French and Spanish ports have on each former descent of the scourge suffered severely, all the more that in their conscious neglect of sanitary precaution their authorities invariably lose their heads in presence of the invader and attempt to atone by a few days' feverish energy for the culpable remissness of years. But there are special causes of the uneasiness, not to say positive panic, which the slightest hint of the advance of cholera arouses in those populations. Their custom of allowing but a few hours' interval, sometimes hardly a day, to elapse between decease and burial has on the occasion of increased mortality from epidemics induced certificates of death to be prematurely given, with the horrible result that apparent corpses have come to life on their way to the tomb or the crematorium, and with the necessary inference that not a few must have been buried or cremated when the vital spark, so far from being extinct, might still have been kept alive. The great Tuscan pathologist Pacini some thirty years ago published a memorable pamphlet on "La Morte Apparente della Colèra" and having instanced a number of cases in which the seeming corpse had been snatched from the very brink of the grave he proceeded to gives rules by which even in collapse the apparent victim to cholera might be resuscitated. Among his prescriptions that of the intravenous injection of bay salt, as suggested and practised in 1832 by Dr. James Macintosh of Edinburgh, held a prominent place and by this means, particularly in the cholera visitations of 1877 and 1884, the restoration to life of many duly certified as dead was just in the nick of time effected. In the latter year, however, a remarkable and extremely painful instance of the all too tardy resort to the practice occurred in the person of a distinguished Genoese physician who, having overworked himself in the public cause during the epidemic, was himself struck down just when it was in full retreat. Every care was bestowed upon him, but he rapidly sank into collapse and within forty-eight hours he was thought to be, and certified as, dead. Burial arrangements were in progress and the family, sitting disconsolate in a room adjoining that in which he was laid in his shroud for burial, were expecting the arrival of the undertaker every moment, when, to their mingled horror and delight, the door was feebly opened and the apparent corpse presented himself and, in a voice scarcely audible from weakness, remonstrated with them for having left him so long unattended. Instantly they conveyed him back to bed and employed, under the best professional advice available, every means that could be imagined for his rescue; but in vain. He died a few hours afterwards of cardiac failure. The case was much commented on at the time as a typical example of what might occur on the strength of death certificates prematurely given, and so Pacini's method was reapplied with enhanced vigilance on every cholera patient who had reached the stage of collapse. The epidemic ran its course; the panic and the vigilance born of it disappeared, till now, when cholera is again within measurable distance of the Mediterranean seaboard, Pacini's name and practice are once more trotted out. The Southern populations, however, must surely have learned by this time that prevention is a better safeguard than cure, be it as ingenious as it may, and that to leave their ports in a mediæval state of filth and neglect invites those cholera explosions that never occur on so sudden or so vast a scale in the more civilised harbour towns of the British Isles or of the Dutch and Danish coasts. With the experience of Naples and Spezzia still recent, sanitary rehabilitation must have made some way towards the protection of regions to which quarantine and "hygienic cordons" have ceased to give the security so long laid to their credit.

LONDON DUST AND REFUSE.

LONDON residents will be dismayed if they find they are required to burn the vegetable and other refuse which collects in their houses and if the dust collector receives instructions not to remove anything but dirt and ashes. The readers of the columns of the *Daily Telegraph* will find in it letters from "distressed" and "aggrieved" Londoners complaining that such is the case; the former states that his cook had informed him that the dustman would no longer remove any vegetable stuff; living in a flat, he had found it difficult, if not impossible, to burn it; the latter writes that the vestry's dustman had declined to take any vegetable refuse, paper or garden rubbish; that to burn this in the house would be prejudicial to the household, and that to burn it in the garden would create offence to the neighbours. We cannot but think that there must be some misunderstanding; it is reasonable for sanitary authorities to require householders to burn such matter as is practicable, but it is equally certain that local authorities must be prepared to relieve householders of their waste refuse. We do not suppose that sanitary authorities will be unreasonable in this respect. What is wanted at the present time is that a system of periodical removal of house refuse should be instituted in all parts of London and that houses should be provided with the proper receptacles for its storage for the short period which must intervene between successive collections.

THE EPSOM COLLEGE REPORT.

THE report issued for the present year by the Council of Epsom College makes out not only a strong case for generous support by the profession and the public of this most deserving institution, but also a record of advance made in the direction of securing public recognition which should encourage the friends of the school to take a very hopeful view of their prospect of shortly surmounting the difficulties by which they have been, by which indeed they still are beset. In the meantime these difficulties are very serious and it cannot be doubted that the highly creditable result which the Council are able to report has been reached only by dint of very determined and wholly unremitting labour on the part of those who are entrusted with the work of carrying on the school. During the past year it has held its own in comparison with kindred institutions and shows a very gratifying list of academic successes. The amount of good which by its charitable and its educational work Epsom College accomplishes and the value of the service which in both respects it renders to the medical profession cannot well be overstated. Unfortunately it is only too easy to under-estimate them, and the neglect of which for many years the active supporters of the school have had too much reason to complain affords abundant proof of this proposition. We trust that this period of neglect has now passed away and that the newly awakened interest, which so largely contributed to the success of the biennial festival, is the herald of a happier time in the annals of the College. This quickened interest is amply justified by the success which has already been achieved under distinctly depressing conditions of work by an executive whose devotion to their undertaking is just beginning to be recognised. We trust that the time is not far distant when this institution will be regarded with fitting solicitude and pride by all the members of our profession. It will then flourish on a scale at present rendered impossible by the narrowness of its means, and we do not hesitate to predict that the skill and zeal which have rendered it at the present moment worthy to represent a great profession in its own department will under these more fortunate conditions place it in a position to receive by common consent the rank among public schools to which its connexion with the profession of medicine gives it a presumptive claim. Founder's Day will be held on Monday, July 25th, when the annual distribution of prizes will take place.

IMPROVEMENT SCHEMES IN LONDON.

THE London County Council, at their meeting last Tuesday, resolved to contribute one-half of the cost of a scheme for the improvement of an unhealthy area in Shoreditch and themselves to carry out an improvement scheme in Mill-lane, Deptford, to which the sanitary authority will contribute one-half the cost. The Mill-lane area comprises fifty houses, in addition to which are eight registered lodging-houses and other premises. It is proposed to erect improved lodging-houses in place of those which are to be demolished. This area is now occupied by very poor Italians, who sell ice-creams in the summer and in the winter perambulate the metropolis with barrel-organs. The outbreak of enteric fever in Deptford and Greenwich last autumn was found on inquiry by the Council to be caused by the distribution of ice-creams from this locality. The estimated cost of the improvement is £33,500.

THE REPRESSION OF INFANTICIDE.

A RECENT meeting of the Society for the Prevention of Cruelty to Children is worth recording, if only for the practical discussion of the question of child life insurance, which occupied a prominent place in its agenda. It was generally agreed that the proposals contained in the Government Bill on Friendly Societies were quite inadequate to deal with this matter. As a measure it was distinguished as much by its friendliness towards insurance companies and insuring parents as by its comparative inattention to the weal or woe of the helpless children. The following suggested amendments ought to be borne in mind by any and all who have at heart the best interests of the latter. First, as regards registration, it was proposed that steps should be taken to secure the efficient notification of every case in which a burial policy was taken out in respect of a child; that death (if it occurred) should be officially noted; that agents should be registered; that the sum insured should be no more than sufficient for burial (about £1); and finally, that this should be granted only on receipt of satisfactory proof respecting the actual nature of the child's last illness. The very necessity for burial insurance shows a want of adequation in domestic money matters. It were certainly preferable if by the independent exercise of homely thrift any such necessity could be done away with. Where this is impossible and the alternative method is employed it must in mere justice to the life involved be guarded by the rules above-mentioned. We would therefore ask for these the careful attention of the new Parliament. A further suggestion was brought forward at this meeting—namely, that persons having charge of even single nurse children should be subject to efficient supervision. We have long advocated such an arrangement. It aims at the root of the baby-farming evil and it must, if carried into effect, exercise a wholesome influence in its repression.

POISONOUS ICE CREAM.

SINCE Dr. Vaughan reported ice creams as containing most deadly irritant poison medical officers of health have been quick to detect any poisonous agent in this substance. Dr. George Turner, acting for the Public Health and Housing Committee of the County Council, has been able to demonstrate that in certain parts of Mill-lane, Deptford, the ice cream made by Italians is prepared under conditions which he deems to be favourable for its contamination. We are glad to see that the committee, instead of deferring the matter by appealing for special legislation, have expressed the opinion that the proper remedy for the condition indicated is the efficient application of the general provisions of the Public Health Act to places in which food is prepared for sale and not the acquisition of further powers dealing with articles designed for consumption. If these powers are not sufficient an enactment must be obtained, but if Dr. Turner's report is carefully studied and the points to which he draws attention are mastered by the authorities, they will find that they have full powers to act where ice creams are being manufactured in premises in which people are living under unwholesome conditions. The general powers under the Act are very far reaching, and if properly put in force should cover all irregularities and provide for bad hygienic conditions in all places where articles for human consumption are prepared or manufactured. Typhoid fever is at present too rife to permit of any factors, however doubtful, involved in its spread being ignored.

HONOURS TO A PHARMACOLOGIST.

ON March 29th, 1792, was born, at San Miniato, in Tuscany, Gioacchino Taddei, who rose to be one of the lights of the Florentine school, in which for many years he held the chair of Pharmacology. In the Arcispedale di Santa Maria Nuova he taught the practice of his subject to successive generations of students and contributed by precept and example to raise that branch of the procession to an efficiency unsurpassed in any other province of Italy. He sat as one of the Tuscan group in the Italian Chamber of Deputies, where his services as a wise and liberal legislator, particularly in all questions relating to the public health and to the higher education, professional and lay, procured his subsequent promotion to a seat in the Senate. Taking these facts into consideration, the "Associazione Chimico-Farmaceutica Fiorentina," in coöperation with the Communal Council of Florence, will at an early date cause to be unveiled on the façade of Professor Taddei's house a memorial tablet setting forth his signal contributions to science, to public health, and to his country's unity and independence. The bestowal of such honours is a frequent and commendable practice in Italy. No doubt it is sometimes abused. Monuments and memorial tablets have from time to time been erected not so much to honour the "illustrious obscure" as to gratify the self-advertising ambition of organising committees and their presidents, whose activity, culminating in the ceremonial proceedings and the inevitable banquet, with its opportunities of speech-making, fructifies in little else than a confirmation of the impression that "Italians are a carnival people." But there can be no doubt as to the propriety of unveiling a tablet to Gioacchino Taddei. His scientific eminence would of itself justify the step, even if he had not been an exemplary citizen and an intrepid patriot in days like those of 1849, when espousal of the national cause meant social ostracism, confiscation of means, exile and not seldom death itself.

THE MEDICAL OFFICER OF HEALTH, NEWTOWN, MONTGOMERYSHIRE.

OUR attention has been directed to the decision of the Newtown Local Board to elect a medical officer of health in place of the gentleman who has recently held that office. We have received evidence of the esteem in which Mr. Palmer is held by those who have had the opportunity of forming an opinion of his work. The appointment he holds is an annual one, and it is open to anyone who may take exception to the action of this officer to seize the occasion of his re-election and to endeavour to introduce another medical man into the office. The circumstances under which the Newtown Local Board have been led to adopt this course deserve the investigation not only of the profession but of the public, for the public cannot be well served if medical officers of health feel they cannot be re-elected if they show the least independence either in the performance of their duties or in the ordinary conduct of life. In the present case it was decided to advertise the office only upon the casting vote of the chairman.

CHOLERAIC DISEASE IN FRANCE.

IT is interesting to learn that Dr. Dujardin-Beaumetz speaks of the malady that is now alarming Parisians as a form of cholera fostered by bad drinking water and the insanitary conditions that prevail in the environs. Although unwilling to call the disease cholera, he describes it as of Asiatic origin, arriving in France from Persia by the Caspian Sea, making its first appearance at Nanterre at the end of March and subsequently spreading to Asnières, Neuilly, St. Denis, Aubervilliers and Clichy. Later accounts speak of this malady as occurring also at Suresnes, Courbevoie and Colombes. What is obviously greatly needed is an inquiry into the whole circumstances of the disease, such as the Local Government Board makes in England whenever the prevalence of any malady demands investigation. The suburbs of Paris are, it is said, unable to provide themselves with satisfactory water-supplies and hence water from the Seine and Marne are utilised to make up for the deficiency of other supplies. The inhabitants of these localities have a right to know whether the water is to blame. Cholera in Paris may lead to the introduction of the disease into England, though with us there is less cause for alarm. Still, all English water-supplies are not above suspicion, and there is no community so perfect from a health point of view as not to require the earnest attention of the sanitary authority.

THE POLLUTION OF THE MERSEY AND THE IRWELL.

AT a meeting of the Mersey and Irwell Watershed Joint Committee, which was held last week, the chairman (Mr. J. T. Hibbert), after congratulating Mr. Hulton, the clerk, on the success which had attended the passage of the Bill through Parliament, commented on the action of a representative of the Local Government Board when the Bill was brought before a committee of the House of Commons and stated that, while he thought some of the control by this Board was useful, he did not think that an important joint committee like that dealing with the whole watershed should be treated as children. He further regretted that any authority in the watershed and represented on the watershed board should have opposed the Bill. He then stated that twenty-nine authorities had sewage works in operation, but that they varied in effectiveness. Some required alteration. In twenty-three places there were no schemes in operation and on twenty of these twenty-three authorities notices had been served. The two months' notice had now expired and he thought it desirable that further action should be taken against them at the next meeting. The figures he had submitted dealt only with urban authorities—the rural had in nearly every case taken some action. Mr. Armitage gave notice that at the next meeting he would move that action be taken against those authorities which had not adopted any scheme.

ELECTRICITY ASTRAY.

AN accident to an electric lighting main in Walbrook, E.C., appears to have recently occasioned some merriment to the dwellers in those parts. We cordially congratulate them on having escaped any more serious consequences than those which provoked their mirth. It seems that through some unexplained failure of the insulator of an electric-lighting main a metal shop front became charged with wandering electricity and passers-by discovered that by touching it with their hands they could experience the delightful inconvenience of an electric shock. The circumstance that this luxury is in the minds of most people, and particularly of most street urchins, associated with festival occasions and penny fees no doubt invested the unpriced supply in Walbrook with an added charm. Happily, the amount of current obtainable seems to have been inconsiderably small; but seeing that a metal shop front in connexion with an electric-lighting main might easily become a greater source of peril to unwary passers-by than an uncaged tiger, the story of this mishap is calculated to give the reader of a serious turn more food for reflection than is altogether pleasant. Fortunately, it is not possible that such an accident should happen without serious fault on somebody's part, and although the London public seem to have taken the matter with a light heart, we hope that those whom it most nearly concerns will make a point of exacting the full penalty for a flagrant default, be it whose it may—*pour encourager les autres.*

THE CHOLERA IN KASHMIR.

SOME further particulars of the cholera in Kashmir are to hand in the form of a letter from Mr. A. Neve, the senior medical missionary, who when the epidemic commenced was working single-handed, as his brother, Dr. Ernest Neve, had gone with a party of Moravian missionaries to Ladak. He had, however, a valuable native helper. As soon as the epidemic became at all pronounced the British resident and all the European visitors took flight to Gulmarg, a hill sanatorium some thirty miles from Srinagar. Mr. Neve and his assistant carried out as systematic a visitation in the city as was possible, but little could be done either in the way of sanitation or of medication, as the cases were rarely seen during the first few hours, when drugs are really valuable. The hospital was as far as possible cleared out, the patients being sent away to their villages lest in their weak state they should contract the disease. "I get up very early," continues Mr. Neve, "and ride to the bazaar. The head man of each district then comes and escorts me to the new patients in the neighbourhood. Many of the houses are two- or three-storeyed and one has to climb up and down the most tortuous stairs, usually very steep and the ceilings very low, so that my thick sola topi has been almost smashed to pieces. The people all crowd round the unfortunate patient. A well-known man will have twenty or thirty neighbours sitting round him and the women do not reserve their wails for the dead, but beat their breasts and tear their hair and scream 'Hai, hai, wai, wai' if anyone is badly attacked. ...... For a time there seems to be no 'purdah' and no class is specially inaccessible. In fact the well-to-do Hindus seem quite as willing to receive me as any others. In many cases one can do little; in others one can turn the scale. But although a few lives here and there have been saved I think the moral effect of our work is more important. The people well know the apathetic selfishness of their co-religionists and they see the missionaries and ladies as well as others going about trying to relieve suffering." Mr. Neve's assistant succumbed to the disease, though after transfusion he rallied for a short time. The Indian Government have deputed Surgeon-Colonel Harvey to make a searching inquiry into the epidemic and he has taken up his quarters in the mission house with Dr. Ernest Neve, who has returned, Mr. Arthur Neve going out into the villages where the cholera, after having abated in the city, was becoming rife.

ENTERIC FEVER AT NORTHALLERTON.

ENTERIC FEVER still prevails at Northallerton, but, as we anticipated, the Local Government Board do not see any reason for sending a medical inspector to investigate its causes, those causes being known in advance to the local authority. Mr. Lumley again tells the local board that the further incidence of the disease goes to confirm his view that it is due to polluted water. Unfortunately the account of the proceedings of the local board does not contain any statement as to what is being done; indeed, the only action recorded is a proposal that the board should form itself into a committee to further consider the outbreak and the means which should be adopted to stop the spread of the disease. It is, however, to be hoped that all suspicious water-supplies have been stopped and that a wholesome supply is being delivered day by day, by water-cart or otherwise, at all houses where the local supply is liable to contamination.

A PRESIDENTIAL ADDRESS.

THERE lies before us a copy of an important and highly interesting document which should be available for every member of the profession, for it deals with topics of more than local interest. It is the address of the President of the Royal College of Physicians delivered to the assembled Fellows on the occasion of the close of his year of office. We are unfortunately restrained from discussing its contents and especially its exhaustive treatment of the movement for a new or reformed University in London by the superscription on the title-page "private and confidential." Is this also one of the "secreta Collegii"? Surely it cannot be so intended. Incidentally we may remark that the "secreta" have of recent years been unusually numerous, and we cannot help speculating whether the bond of union that has obtained between this College and the sister institution in Lincoln's-inn-fields may have had a tendency to deprive the proceedings of the College of Physicians of a publicity which in these days ought to be the rule and not the exception. Apart from the general question, however, it does seem foolish and unworthy of the College to require its President to restrict the circulation o his address to a small circle, and whilst we are dealing with this specific instance we may perhaps express a natural regret that the previous addresses of the present occupant of the presidential chair and those of his much-revered predecessor have never been published. They are of permanent value and should not be suffered to lie neglected in the College vaults. For without doubt they contain words of wisdom and the teachings of ripe experience which might exert the best possible influence upon the profession, not only in the present day but in years to come. The London College of Physicians occupies such an eminent position among the medical institutions of the empire that it is its bounden duty to lose no opportunity of inculcating the principles it represents and the ethical standard it maintains. It could not better promote these aims than by publishing the annual addresses of the leaders of the profession whom it places at the head of its affairs.

SMALL-POX IN YORKSHIRE.

SMALL-POX still hangs about some of the Yorkshire towns and villages. During the month of June Liversedge and the Doncaster rural district and some localities in the neighbourhood of Halifax were somewhat seriously affected. Mexborough is still suffering from the disease.

THE SCARLET FEVER EPIDEMIC IN LONDON.

A STATEMENT made at the last meeting of the managers of the Metropolitan Asylums Board is entirely in the direction of the caution which we uttered in our leading article of last week as to the extent to which scarlet fever is prevailing in the metropolis. The chairman explained that the incidence of the 2247 cases under isolation in the Managers' hospitals amounted only to one case per 2000 of the 4,250,000 people in London. And even if we assume the total number of patients to be double that in hospital, the rate of attacks would only be 1 per 1000. The death-rate, as we intimated, is by no means alarming at the present moment.

THE MEDICAL MAGAZINE.

A NEW literary adventure in the medical world deserves a hearty welcome, when, as in the case of the monthly journal appearing under the above name, it is issued with the laudable desire to restrict the growing tendency on the part of lay periodicals to insert contributions on medical subjects in their pages. This magazine, which is produced in commendable style, has doubtless a mission to fulfil, and the contents of the first number are varied as well as interesting. There is a faithful and just tribute to the work and character of the late Dr. H. G. Sutton, one of the most remarkable physicians of our day from the pen of Dr. Donkin; an interesting sketch of the health conditions of Chester from mediæval times to the last century by Dr. Creighton; and some strong advocacy of the value of periodical medical literature in advancing medicine by Dr. Saundby. Dr. Maudsley writes on Suicide in Simple Melancholy, in which he conveys the impression that suicide is not out of the natural order of things, as we are disposed to regard it. Mr. G. H. De'Ath, the medical officer of health for Buckingham, does good service by drawing specific attention to facts of rural sanitation (or rather insanitation) which have come to his notice. Dr. Francis Warner contributes a brief paper on Mental Physiology; and there is an anonymous (presumably editorial) article on the Medical Profession and Practical Politics—an appeal to members of the profession, especially those retired from active practice, to share in political and municipal affairs.

CHOLERA AND CROWDS.

THE Russians are evidently greatly disquieted by the fear of the threatened epidemic of cholera and are taking the most active measures to prevent the spread of that disease along the lines of railroad. Cholera is advancing up the Volga. Of that there can be no doubt apparently, and it becomes a serious question as to what steps have been taken in regard to the approaching fair which, we are told, is to be held at Nijni Novgorod. The latest accounts would indicate that the official authorities in Russia have been very active in this direction of late, but whether the sanitary arrangements are of an adequate kind and commensurate with the occasion we do not know. The authorities in India have had great experience of what occasionally happens at Hurdwar and other large religious gatherings and of the arrangements that have to be made to prevent an outbreak of cholera or limit its spread. A great deal of forethought and labour are expended in the way of organisation and preparation on such occasions, and arrangements are also made for the sudden breaking up of the religious fairs and dispersal of the pilgrims in case of need. When any epidemic is actually present or impending there must obviously be great risk attending the assemblage of a large concourse of people. Even if some of them did not bring the disease with them, the heat, fatigue, overcrowding, defective sanitary arrangements and difficulties connected with water-supply, are all adverse factors that have to be encountered. A commercial fair like that at Nijni Novgorod is, of course, on quite a miniature scale compared with one of the vast Hindu religious gatherings in India, but all such assemblages require great preparatory care in the way of sanitary organisation and arrangements. The truth is there is no short and ready way, no royal road to the prevention of the spread of cholera in a country by quarantine and cordons. The scale on which the attempt has to be made is altogether too large and the difficulties too great for it to be practicable to apply such methods. Sanitation on a large scale, a pure and good water-supply, efficient sewerage, cleanliness and wholesome dwellings are the only reliable safeguards against cholera. There is the seed and the muck-heap to be dealt with, and if the former cannot be destroyed the muck-heap necessary for its growth and development can be removed. An increased knowledge and experience have only confirmed the truth and given precision to the late Lord Palmerston's sagacious remarks on the subject.

RIGOR MORTIS IN ITS RELATION TO DEATH FROM POISON.

THE *Wiener Medicinische Presse* publishes a paper read by Professor A. Paltauf before the Association of German physicians at Prague on some experiments he had made to show the causal connexion between rigor mortis and deaths from poison. For the purpose of these experiments such poisons were used as were known to exert a certain influence on the muscular system, either by directly acting on the muscular substance or indirectly by affecting the nervous system. Amongst the poisons belonging to the first series curare always considerably delays the occurrence of rigor mortis. Amongst those acting on the central nervous system, strychnine, picrotoxine, camphor, and the salts of ammonium accelerate the occurrence of rigor mortis. This acceleration is still more increased by artificially prolonging the stimulation of the muscular system, but is again arrested on the occurrence of paralysis. Veratrine and physostigmine cause only a slight acceleration of the rigor mortis, but with caffeine and its chemical derivatives — the rhodan salts — this acceleration becomes considerable. To study the influence of the nervous system at the time of occurrence of the rigor mortis, Professor Paltauf divided the nerves and the spinal cord, with the result that the more a muscle had been stimulated by the poison the sooner was the rigor mortis observed, independently of its connexion with the spine, if such connexion existed. The reaction of the rigid muscles was in the case of many poisons, as has been generally believed, acid. Other poisons, however (such as camphor, ethyl-theobromine and the rhodan salts), gave, contrary to the general assumption, an alkaline reaction. This alkaline reaction affected, however, only the anterior portion of an animal in which after the poisoning the cord had been divided. The posterior part of the animal, in which the rigor mortis was delayed, showed the usual acid reaction until the alkaline reaction of putrescence took place. Where the reaction of the anterior portion of the animal was alkaline it often became, after the reduction of the rigidity had passed off, neutral or slightly acid before putrescence once more made it alkaline. Division of a single nerve had the same result, and it was possible to cause either alkaline or acid reaction in the various muscles of one extremity by leaving the nerve entire or dividing it. Professor Paltauf also approached the solution of the question of the existence of a cataleptic rigor mortis. He found that the convulsive muscular contractions of an animal poisoned by camphor and suddenly killed by strangling led to immediate rigor mortis, and he therefore believes in a cataleptic rigor mortis.

THE COST OF HEALTH OFFICERS AT LEWES.

MR. J. G. BRADEN has resigned the post of medical officer of health for Lewes after a service which has extended over many years and which has been courteously acknowledged by the Town Council. Not only has that service been efficient, but it involved a period of great anxiety and responsibility when Lewes suffered in 1874 from its now historic epidemic of enteric fever due to insuction into water-pipes of infective matters during intermissions in the service. A committee of the council have recommended a new appointment at £100, but the subject has been referred back to them because some members of the corporation think £80 sufficient, and they quote other places which are comparable with Lewes in point of area and population in support of their contention. In one respect the comparison is inapplicable, for at Lewes it is to be part of the duty of the health officer to attend such patients at the isolation hospital as are not under the care of their own medical advisers. Even a few such cases will involve a large number of visits extending in each case over many weeks, and if the corporation were to set this service down at £20 a year it would probably be the least that could be offered for it. This would as a matter of fact place Lewes on a level with those towns where the medical officer of health receives £80 a year. There is another reason for dividing the total salary in this way. No repayment from the county funds is likely to be secured for the hospital attendance, for it is no part of the official duty of a health officer to attend patients anywhere. The repayment is certainly to be limited to the £80, which is regarded by some as sufficing for the services of the health officer as such.

MULTIPLE NEURITIS.

AT the meeting of the Congress of Neurologists held at Baden-Baden a few weeks ago Dr. W. H. Gilbert read a paper on two cases of polyneuritis which presented some striking features. The first was that of a high Government official, aged fifty-six, a member of a "very nervous family," and himself of irritable and hasty temper. In February, 1891, he had an illness thought to be peliosis rheumatica, in which he suffered great pain, followed by cutaneous anæsthesia and muscular paralysis of the extremities. He improved somewhat under electrical treatment and massage, but when first seen by Dr. Gilbert he was emaciated to an extreme degree. There was, in fact, general muscular atrophy, abolition of the plantar and patellar reflexes, whilst the nerve-trunks, which could be felt through the attenuated lower limbs, were the seat of painful nodular swellings. There was some loss of control over the bladder and rectum. Under treatment he improved slightly, so that he could walk better and gained a little in weight. An attack of diarrhœa, brought on by exposure to cold, rapidly reduced his strength and he died on July 9th. The other case related by Dr. Gilbert was that of a lady, thirty-two years of age, who, on Feb. 2nd, 1892, swallowed a large quantity of "Schweinfurt green" with suicidal intent. Prompt recourse to the stomach-pump and other measures averted a fatal issue, but then ensued great prostration and severe gastro-enteritis lasting four days. Next followed symptoms of paralysis of the limbs with severe paroxysmal pains, especially in the right limbs, numbness of the fingers, sensation of cold, profuse sweating and insomnia. In this condition the patient came under Dr. Gilbert's care on April 3rd, when she could only move slowly and with great difficulty, and complained of stiffness in the legs and great weakness. The plantar and patellar reflexes were exaggerated and there was foot-clonus on the right side, but only moderate anæsthesia. This patient, who presented in a striking degree the effects of arsenical neuritis, entirely recovered. Dr. Gilbert remarked that in each of these cases the motor functions were more involved than the sensory.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

The deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Anders Georg Drachmann, father of the poet, Holger Drachmann. He made a great study of hygienic gymnastics and orthopædics and of the hygiene of childhood. He practised medicine in Denmark till within a short time of his death. He was eighty-two years of age.—Professor Hermann Nasse, of Marburg, at the age of eighty-nine. In his earlier years he was assistant to the Professor of Surgery in Bonn, and from thence was invited to Marburg as Professor of Physiology, Pathology, and Veterinary Pathology. The two latter subjects he gave up after a few years, devoting himself entirely to physiology, and in 1879 he transferred the charge of the physiological laboratory to Professor Kuelz.

THE British Institute of Public Health have issued regulations for the conduct of their examinations for sanitary inspectors. There will be two examinations, the first preliminary, the second technical, held twice in each year, in April and October. It has been arranged that the first annual meeting of this institute shall be held in Dublin on Aug. 17th, 18th and 19th.

THE German Consul has officially informed Mr. Gerald Portal, the British Consul-General, that the German Government recognises the right of Great Britain as the protecting Power to regulate the sale of liquors in Zanzibar and has ordered German subjects to submit to the licensing system established.

WE learn from inquiries made at the Pasteur Institute in Paris that M. Pasteur suffered a fortnight ago from slight diarrhœa and colic. He is now, however, we are glad to state, well and able to resume his customary daily walks in the Park of Villeneuve.

AT the quarterly meeting of the directors of the Naval Medical Supplemental Fund held on the 12th inst., T. Russel Pickthorn, Esq., Inspector-General, in the chair, the sum of £70 was distributed among the several applicants.

DR. ALFRED HILL has accepted the presidency of the Birmingham branch of the Association of Medical Officers of Health. Dr. Hill was the founder of the Association, and its first president, sixteen years ago.

DR. GEORGE GORE, F.R.S., has been awarded a Civil List pension of £150 in consideration of his services to chemical and physical science.

OUR Paris correspondent telegraphs that no death from cholera had occurred in that city on Tuesday or on Wednesday.

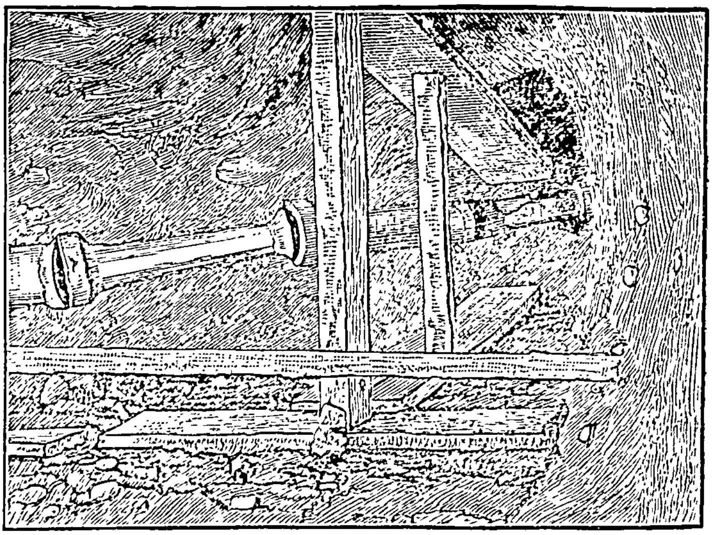
REPORT OF
The Lancet Sanitary Commission
ON THE
DRAINAGE OF SURBITON.

The Sanitary Authority.

The sanitation of Surbiton is under the control of the Improvement Commissioners, by whom are appointed a medical officer of health (Dr. Coleman) and a borough surveyor and inspector of nuisances.

The Main Drainage.

Most of the sewers consist of earthenware pipes which have been laid down during the last ten years; but we are informed that two or three of the old brick sewers still remain in use. The storm waters are carried by separate channels. Up to a recent date the sewers were ventilated by openings at the level of the road, but owing to complaints of nuisances arising from these ventilators several shafts have been carried from the sewers up the sides of the houses and many of the old road ventilators have been closed, with the result of abating the nuisance. The sewage of the town is carried to Kingston and is there subjected to precipitation by means of the A B C process, the effluent being subsequently run into the Thames. The Surbiton Improvement Commissioners pay the Kingston authorities for the disposal of their sewage according to the quantity treated, and we were told that in consequence of this arrangement only a certain amount of sewage is allowed to escape at the outfall, the rest being backed up in the Surbiton sewers during the night. It is said that as a consequence of this the air of Surbiton is frequently offensive in the morning. During our visits to Surbiton we could not detect any smell from the sewer ventilators in the road.



House Drainage.

The code of sanitary by-laws at present in force in Surbiton came into use in 1880 and we shall best be able to describe the drainage of the houses by dividing them into classes, according as they were built prior or subsequent to the passing of these laws.

1. *Houses built in compliance with the by-laws of 1880.*—The drainage of these houses has been laid down according to the most modern plans, the house drains being outside upon concrete and provided with inspection chambers at the front and back of the drain. The sink, bath and rain-water pipes are all disconnected and cistern overflow pipes discharge outside. We had an opportunity of inspecting some of these houses and are satisfied that these points were all carefully attended to.

2. *Insanitary houses erected since 1880.*—Of these houses several have been brought to light recently. According to the statement of one inhabitant the house drain was not only not laid on concrete, but the individual pipes were uncemented, so that sewage was leaking through at every joint. The rain-water pipe was also untrapped and opened directly into the drain. In this house a case of diphtheria occurred and was the cause of the drain being examined. Another house was found to be in a condition somewhat similar. A case of acute dysenteric diarrhœa having occurred, the medical attendant suggested an examination of the drains, with the result that the house drain was discovered passing over a cesspool, the joints uncemented and leaking, and the sink wastepipe connected directly with the drain. The accompanying engraving is from a photograph of the drain of a house in which "much sickness occurred" and from which the family were ordered away by the medical man in attendance. It will be noted that the joints of this drain are open. We were also informed that a gentleman had offered to take a house in the neighbourhood on condition of the drains being satisfactory. On the drain being laid bare and tested with smoke and water the joints were found to be so defective that the inspector reported that the drain would require to be relaid. The other sanitary arrangements of the house were also condemned. This house had been built within the last two years. It was also stated that there are houses in Surbiton which have not been properly joined to the new sewers; but of this class we could not obtain an example based on sufficiently reliable evidence for the purpose of this report.

3. *Houses built before the passing of the by-laws of 1880.*—Examples of defects in the sanitary arrangements of houses of this class are naturally numerous. We personally inspected some of these houses and found them drained according to the old plan—soil-pipe inside and unventilated, pan closets, waste pipes not disconnected, and rain-water-pipes going straight into the drain. We found one of the worst examples of these houses to be in the following condition: A four-inch soil-pipe had fixed on to it a one inch and a half ventilating pipe; a single cistern supplied the closets and drinking water by a *single* pipe which divided into three branches; the closets were of the pan type, and the D trap of one of them projected for about four inches into the roof of the pantry. The sink waste was not disconnected, and the cistern overflow did not discharge externally. We have also been furnished with written reports of sanitary defects which have been detected in houses of this class during the past three or four months. These include soil-pipes inside the house, soil-pipes ventilated with one-inch pipe, unventilated soil-pipes, ventilating pipes made of zinc, drains passing under the house with leaking joints, cisterns outside the house and uncovered, rain-water tank under the floor, with overflow into drain and no trap intervening, pan and container w.c. fixed direct to the drain with no trap, and waste-pipe from lavatory discharging into drain under w.c.

General Remarks.

It must be admitted that the drainage of Surbiton, compared with that of other places, is fairly good; but it is evident from the instances adduced above that it is far from perfect.

he sanitary laws in force in Surbiton are excellent, and were ey rigidly enforced during the erection of new houses ould secure to the town an admirable system of drainage. e were informed that the duties of borough surveyor nd inspector of nuisances are discharged by one official. here has been much dispute between one inhabitant nd the Improvement Commissioners as to how his house ame to be in the state in which it was found; and the solution f the difficulty has been by no means satisfactory.[1] As egards the houses built before 1880, their sanitary defects ust be remedied either by tenant or landlord; or failing hese, by an appeal to the sanitary authority on a nuisance rising from them. On turning to the report of the medical fficer of health (Dr. Coleman) for 1891 we see that the total eath-rate is returned as 13·5 per 1000, the death-rate from ymotic disease being 1·1 per 1000. Of infectious diseases 35 were notified during the year. Of these 10 were erysipelas, 1 enteric fever, 3 scarlet fever and 21 diphtheria. In 1890 there were 36 cases of diphtheria notified. Dr. Coleman says: "Correctly speaking, there has been no outbreak of diphtheria, for the succession of cases, spread over the whole year, are not to be so called and there is no reason for suspecting water, milk, or any article of food. Equally impossible is it to account for all of them by any theory of personal infection or of local or general sanitary defects." The steady persistence of diphtheria during two years in an otherwise healthy suburb and its great preponderance over the other infectious diseases is certainly a matter for inquiry. The medical officer of health is inclined to attribute it mainly to the large amount of damp prevailing during these two years.

THE CHOLERA IN PARIS.

(FROM OUR SPECIAL CORRESPONDENT.)

A FORTNIGHT ago, under a pledge of absolute secrecy, I was informed that all the talk about cholera nostras and choleraic diarrhœa was concocted merely to avoid panic. It was necessary to account for the sudden deaths which were occurring in such a manner as to avoid alarming the public and none of the authorities dared to confess that cholera prevailed in and about Paris. Then I was told that careful bacteriological researches had been made. The comma bacillus had been found in the dejections of the patients. At first some doubts existed as to whether this was the real germ of Asiatic cholera. It was maintained that similar germs had been found in previous years and yet no cholera epidemic, as we generally understand the term, had occurred. Also it was found that, unlike the germ of Asiatic cholera, the comma bacillus had failed to give the usual reaction when grown in milk. Soon, however, it was seen that, if the bacillus was cultivated for three days, then its action upon milk was exactly similar to that produced by the germ of Asiatic cholera. Finally, these various experiments led to the conclusion that the comma bacillus, if not quite identical with that discovered and described by Dr. Koch in India, resembled in every respect the microbe of cholera cultivated at the Bacteriological Institute of Saigon by Dr. Calmette. As for the effects on the patients they were identical—rice-water evacuations, cramps, cold at the extremities, black vomit, cyanosis, &c. Post-mortem examinations have confirmed the opinions resulting from bacteriological researches; and by the side of what seemed to be cases of only cholera nostras, there have been other, and many other, cases that in no wise differed from Asiatic cholera.

Words are not strong enough to express the indignation that must naturally be felt at the persistent efforts made to conceal the true facts, which are now at last openly admitted and published in the medical world, though the daily political papers still continue to speak of the "choleriform" epidemic. The means of disinfection and isolation in and about Paris are far from perfect. The machinery at the disposal of the authorities to meet such emergencies is not very elaborate or complete; and this is especially the case in the outlying districts, the residents of which so far have been the principal sufferers. It was therefore necessary that everyone should be on the alert, that the intelligence and the devotion of the public should supplement what the authorities lacked in means of action. Instead of this we have had a foolish attempt to hush up the matter, though previous experience should have shown how dangerous and futile such secrecy must be.

On Nov. 4th, 1884, Dr. Dujardin-Beaumetz addressed the Academy of Medicine. He said now that the danger was all over, now that there had not been a case for an entire month, he would relate what measures had been taken and how a small epidemic of cholera having broken out in the suburbs of Paris the disease had been successfully stamped out. From June 24th to Oct. 4th the epidemic had prevailed, and though it had only caused forty deaths no doubt was entertained that these deaths were due to genuine cholera. Cholera was then existing at Marseilles and at Toulon, and it was easy enough to account for its probable importation to the neighbourhood of Paris. Dr. Dujardin-Beaumetz congratulated himself and the Academy of Medicine on the fact that the epidemic was now quite over, that no alarm had been caused, and, in spite of the secrecy observed, efficient measures had been taken to prevent the epidemic spreading. On that very day (Nov. 4th), while Dr. Dujardin-Beaumetz was thus confidently claiming that the danger was over, five cases of cholera occurred in Paris and two deaths ensued. A few days later (Nov. 10th) there were 110 deaths, and the epidemic continued to spread within the walls of Paris. Altogether 938 deaths occurred from cholera in Paris. This experience shows, first, that the cholera attacked the suburbs of Paris and remained in the suburbs for a considerable time before it came within the walls—that is, the fortifications—of Paris. It shows, further, that the secrecy then observed was of no avail in preventing the disease spreading, and finally that the subsidence of the cholera in the suburbs did not indicate that the danger was over.

With slight fluctuations the present epidemic is continuing and some cases have occurred within Paris. Perhaps an idea of the gravity of the situation may be formed from the fact that there were 217 disinfecting operations performed last year at the central stations in the course of the month of June, whereas during the month of June this year the number has increased to 1223. Since the month of May last no doubt can have been entertained that we were in face of genuine cases of cholera, and yet it is only within the last few days that the fact has been admitted. Some 200 deaths are supposed to have occurred, and the proportion of deaths is two out of every three cases. It would be reprehensible to wait for anything more serious than this before warning the public. In the suburbs of Paris the alarm is widespread in spite of the secrecy observed, and I have heard of some schoolmasters who accompanied the school-children back to their homes in order to see that they did not drink water on the road and recommended the parents to give them only boiled water. At St. Denis the cases have occurred principally among the inhabitants of the Quai de la Seine, the Boulevard Ornano, the Route de la Révolte and the Avenue de Paris, where the houses are all supplied with water from the Seine. The inhabitants of St. Denis who have escaped from the epidemic drink water taken from an artesian well. Somewhat late in the day, but still better late than never, the water companies have convoked a conference, which is to meet at Asnières, one of the suburbs near Paris, where there have been several cases of cholera. The conference is to discuss what are the best means of filtering water. There is no question as yet of supplying the suburbs of Paris with other than Seine water, but perhaps some better methods might be employed of filtering this water. But for the contamination of the Seine as it approaches and passes through Paris the water of the river would be good, and, as I have explained, in the suburbs of Paris the water is taken from the river after and not before it has reached the capital. Considering that two-thirds of the Paris sewage fall into the river it is not surprising if the water is contaminated.

Paris July 12th.

LYING-IN HOSPITAL, LIVERPOOL.—A new Cottage was formally opened on Tuesday, July 12th, which has been added to this institution on Brownlow-hill. The charity has existed nearly a century, having been established in 1796. In that year 126 patients were treated, at a cost of £450. Last year 2000 cases were dealt with, at an expenditure of £2150. The hospital on Brownlow-hill was erected some years ago, but additional accommodation had been found necessary, the total outlay for which (including furnishing) is £2000, and of this sum £900 is still required.

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[1] The other instances quoted also press for an explanation.

HOSPITAL ACCOUNTS.

OUR readers are aware that the Council of the Hospital Sunday Fund, when circulating their request for the various hospital accounts a few months ago, suggested that these statements should in the present year be prepared in the form which had been drawn up by the Committee of Hospital Secretaries convened under the auspices of the Mansion House Council to consider that matter. The result of that suggestion is now before the public in the form of a series of financial statements for the present year and it must be confessed that it is a most disappointing result and one that augurs badly for the ultimate success of persuasive methods in improving the present modes of hospital administration. The result is disappointing because the authorities of the hospitals have paid so very little heed to the suggestion. In this it seems to us that they are equally ungracious and unwise—ungracious because the request was an eminently reasonable one, with which they might have complied at very little cost of trouble or inconvenience to themselves, and unwise because delay in a matter of this kind is much more likely to result in an aggravated demand than in any event more agreeable to the hospital authorities. The importance of uniformity in the presentation of accounts is a thing which has been clearly apprehended by the public or that section of the public which busies itself with such discussions, and it is not at all likely to pass out of sight. Even the Committee of the House of Lords, which has observed the strictest moderation in all its criticisms, has insisted on the importance of this reform, and has made further recommendations which proceed on the assumption that accounts will hereafter be rendered in some commonly adopted form. That being so, resistance to the movement which has for its object the security of this uniformity is now untimely, and those, if any such there are, who have reason to think that the form of statement which has been actually proposed would be but ill adapted to their own use should, if well advised, be the first to attempt the task, and thus they may be able to convince either themselves or the Accounts Committee of their mistake. The statements now made public do not, however, show any sign of a serious or general effort to reduce this suggestion to the test of experience. Barely half a dozen institutions have adopted the suggested form; the rest have ignored it and reproduced the schedules which they have used heretofore, with the result that the new form, so far from bringing the statements into a uniform shape at the present time, has actually increased the existing confusion by superadding a new type to those already in use.

For this unfortunate result the Council of the Hospital Sunday Fund cannot be held in any way to blame. To them it is a matter of some consequence that the information upon which they have to apportion the funds committed to their charge should be supplied to them in a readily available form—that is to say, in a form which makes the comparison of various institutions as simple a matter as such a thing can be. At best it cannot be a really simple thing, so great is the diversity of the features which have to be compared, so many are the points at which general impressions and more or less vague estimates must of necessity take the place of exact analysis. It was therefore an eminently reasonable thing that the Council of the Fund should ask applicants to present their claims in a common form that would as far as possible facilitate comparison. Equally reasonable was the course which the Council adopted in the drafting and settling of the form. This was entrusted to a committee of hospital secretaries, who might fairly be expected to have the interest of their institutions not only at heart, but also very clearly in view; so that no demand for information would be likely to be put forward which could not be safely and easily satisfied. If the hospitals had been asked to furnish their accounts in the form, for example, which has been put forward in our pages and which was submitted by the representative of THE LANCET to the Lords' Committee, it might very possibly and very plausibly have been said that the change would involve a considerable departure from the familiar lines, and such an alteration in the method not only of presenting but also of keeping the accounts as could not well be accomplished offhand. No such objection can be alleged against the Hospital Sunday Fund Schedule. Its shortcoming is that it follows so closely the old and accustomed lines that it does not convey the information which the public most desire and which it is necessary to bring clearly out in the interest of the hospitals themselves. In a word, the fundamental considerations of perspicuity and completeness in the statement have been sacrificed in the preparation of this form to the subordinate consideration of what will cost least trouble to the officer charged with the preparation of the accounts, and yet even to the extent of adopting a form of statement modified so slightly from that with which they are familiar the secretaries for the most part have refused to accede to the request of their benefactors.

The criticism which we have here passed upon the Council's form of financial statement merits a somewhat fuller reference than a mere passing allusion. The reason of our fault-finding has been, indeed, fully stated when we say that perspicuity and completeness are the qualities which, above all others, should be conspicuous in a document of this kind. But perspicuity and completeness are relative terms, which must be understood in relation to some purpose which the statement is to serve. Now, the end of a financial statement is to exhibit to the reader the financial condition of the account which it summarises. In the case of a hospital the financial condition is ascertained by considering (1) how much is annually expended on the work of the institution, (2) how that expenditure is distributed among the various departments; (3) what is the amount of the income available to meet the expenditure; and (4) from what sources that income is derived. These four heads of inquiry should be *fully worked out*. A statement which leaves any one of them in obscurity is to that extent incomplete. A statement which deals with them all may be passed as complete, and one which deals with them all in such a way as to be easily read and understood is both complete and perspicuous. Tried by this test the Council's *form* will be *found* to be wanting in both particulars. To allude, first, to its failure in respect of perspicuity. Those who drafted it have followed the prevalent but eminently perplexing practice of making the first entry on the income side of the account the amount of the balance brought forward from the previous year. This is a mere accountant's trick, and it has the mischievous result of making it impossible to discover without an arithmetical operation what is the actual income of the given year. An illustration will make this clear. Suppose that a given account contains the following items:

Balance brought forward from last account	£500	0	0
Income from charitable sources	10,000	0	0
Income from property	1000	0	0
Total...	£11,500	0	0

Here the total income of the year under notice does not at all appear, since the total figure represents not income only but income *plus* a balance which is the residue of the income of a previous year, the aggregate being an artificial sum which satisfies no other condition than that of balancing an equally artificial aggregate sum on the other side of the account. It would be quite easy to exhibit the self-same figures in a clearly intelligible form, thus—

Income from charitable sources ...	£10,000	
Income from property	1000	
Total income		£11,000
Balance brought forward from last account		500
Grand total		£11,500

Here the reader discovers at a glance what is the total amount of the income for the year, and if the expenditure be treated upon a similar plan he may discover at a glance whether the income of the year has balanced the expenditure or no. The form issued by the Council misses this point and, by introducing the balance brought forward at the head of the income column, involves the whole statement in needless obscurity.

Another point in respect of which this statement stands in need of improvement is the presentation of that part of the income which is derived from legacies. This is here shown under the head of "Extraordinary Income," a term which is doubtless intended to convey the meaning that the sums so classified are regarded as windfalls—sources of income not to be counted upon as yielding an annual return. To a large proportion of the income from legacies such a description is plainly applicable; but when it is found that year after year for long periods of time legacies come in, sometimes in greater sometimes in smaller volume, but never sinking below a considerable figure, it is plain that no committee of reasonable men would think of actually regarding the whole of such income in this light. The proper course and the course always adopted in actual practice is to treat the income from legacies as falling under two heads. One part may fairly be regarded as "ordinary" or "regular" or "renewable" income not distinguishable in this respect from what is derived from annual subscriptions for example. The residue is properly classified as extraordinary or occasional income not to be counted upon, and when received, suitable rather for investment than to meet the ordinary outgoings of routine expenditure. Now this being by common consent the sound theory of hospital finance, the perspicuous way of stating the account must be to make a corresponding division in the statement and to carry part of the sum received from legacies to the ordinary and the residue to the extraordinary branch of income. The form now under discussion passes the whole in one sum to the head "extraordinary income."

These are small points, comparatively speaking, and in respect of them the form of statement adopted by the Council might be modified without adding in any way to the labour of preparing the account or the difficulty of persuading the hospitals to adopt it. With reference to the statement of expenditure, larger questions arise, and the views which we advocate would doubtless meet with more opposition, as involving a much more serious departure from existing practice. This, therefore, is a topic on which we cannot enter at the present moment—considerations of time and space forbid it. We reserve for another occasion this more debateable matter.

DUBLIN UNIVERSITY TERCENTENARY.

[SECOND NOTICE.]

ON Thursday morning, the 7th inst., a procession of delegates, graduates, undergraduates and members of corporate bodies, in academic or official robes, passed through the streets from the Examination Hall, Trinity College, to the Leinster Hall. Previously to their arrival the string band of the Sussex Regiment performed a number of musical selections and during the presentation of addresses played the national airs of a good number of the countries represented. The hall where the presentation of addresses from the delegates to the University of Dublin took place was decorated with garlands of evergreens and flags, while the front of the galleries was festooned with draperies of gold and white cloth over a red ground; and plants and flowers were placed in different parts of the hall, which was exactly in the same condition as at the banquet given there on the previous evening. The arms of the College, in colours, were placed in various parts of the building; and it may be mentioned that the correct arms, as recent investigations have shown, are a castle with two towers, over which is a book—presumably the Bible—and above this a lion and a harp without the crown. The chair was taken by the Earl of Rosse, Chancellor of the University, and the Provost gave an address, being followed by the Lord Mayor. The Vice-Provost then called out the names of each member of the deputations presenting addresses, who passed up from the body of the hall and, shaking hands with the Chancellor and Provost, took their seats on the dais. Professor Richet, of the University of France, spoke in his native tongue and received quite an ovation from the large audience present, the other speakers being Sir James Paget, Bart., for the University of London; Mr. D. C. Gilman, LL.D., President of the Johns Hopkins University, U.S.; Professor Schipper, University of Vienna; Professor V. D'Hondt, University of Ghent; Professor H. M. Saxtorph, University of Copenhagen; Baron F. von Richthofen, University of Berlin; Professor C. P. Tiele, University of Leyden; Professor A. Vambéry, University of Buda-Pesth; Professor Gaudenzi, University of Bologna; Professor F. Hagerup, University of Christiana; Dr. T. T. Martens, University of St. Petersburg; Professor J. Kollmann, University of Basle; Dr. J. Peile, Vice-Chancellor, University of Cambridge; and Rev. H. Boyd, Vice-Chancellor of the University of Oxford. The following is the order in which the delegates were called upon by the Vice-Provost to present their addresses:—

Africa.—University of the Cape of Good Hope, Rev. J. Thompson.

Australia.—University of Adelaide, Professor J. Hudson Beare; University of Melbourne, Professor T. G. Tucker; University of Sydney, Hon. Peter Faucett and Mr. H. E. Barff.

Canada.—Queen's University, Kingston, Professor D. H. Marshall; M'Gill University, Montreal, Professor Alexander Johnson, Vice-Principal; University of New Brunswick, Professor W. F. Stockley; University of Toronto, Professor W. J. Ashley and Professor J. J. M. Baldwin; Trinity College, Toronto, Ven. Archdeacon Jones.

India.—University of Bombay, Sir Raymond West, K.C.I.E.; University of Calcutta, Sir A. Croft, K.C.I.E.; University of Madras, Mr. J. Kernan; University of Punjaub, Hon. W. H. Rattigan, Vice-Chancellor.

New Zealand.—University of New Zealand, Professor H. L. Ferguson.

England.—University of Durham, Rev. Professor A. Plummer; King's College, London, Hon. R. C. Parsons; University College, London, Rev. Professor T. G. Bonney; Victoria University, Professor G. H. Rendall, Vice-Chancellor, and Professor A. S. Wilkins; University of London, Sir James Paget, Bart.

Ireland.—Catholic University, Very Rev. Monsignor Molloy, Rector; Queen's College, Belfast, Rev. T. Hamilton, President; Queen's College, Cork, Dr. J. W. Slattery, President; Queen's College, Galway, Dr. T. W. Moffett, President; Royal College of Physicians, Dr. J. Magee Finny, President, and Dr. J. W. Moore; Royal College of Surgeons, Dr. Edward Hamilton, President, and Sir Charles Cameron; Royal University, the Marquis of Dufferin and Ava, Chancellor.

Scotland.—University of Aberdeen, Sir W. D. Geddes, Principal, and Rev. James Myers Dawson; University of Edinburgh, Sir Wm. Muir, K.C.S.I., Principal, and Professor Masson; University of Glasgow, Professor Ramsay and Professor J. Ferguson; University of St. Andrews, Lord Acton.

Wales.—University College, Aberystwyth, Professor W. J. Johnston; University College, Bangor, Mr. H. R. Reichel, Principal; St. David's College, Lampeter, Professor A. W. Scott.

America.—Johns Hopkins University, Dr. D. C. Gilman, President, and Professor S. Newcomb; University of California, Professor W. Carey Jones; Columbia University, Professor H. T. Peck; Cornell University, Professor Hiram Corson; Harvard University, Professor W. G. Farlow; College of New Jersey, Rev. F. L. Patton, President; University of Pennsylvania, Dr. J. S. Billings, Professor E. J. James and Professor W. R. Newbold; Yale University, Professor T. R. Lounsbury and Rev. J. H. Twichell; National Academy of Sciences, Washington, General F. A. Walker; Smithsonian Institution, Dr. James C. Welling.

Austria.—University of Vienna, Professor J. Schipper; Academy of Sciences, Vienna, Professor Theodor Gomperz.

Belgium.—University of Ghent, Professor V. D'Hondt and Professor A. de Ceuleneer.

Denmark.—University of Copenhagen, Professor H. M. Saxtorph.

France.—University of France, Professor Lannelongue, Professor Bonet-Maury, Professor Beljame, Professor Lafaye, Professor Richet, Professor Tisserand; Academy of Aix, Professor Joret; Academy of Caen, Professor Mabilleau; Academy of Montpellier, Professor Soubeiran.

Germany.—University of Berlin, Baron F. von Richthofen; Royal Prussian Academy of Sciences, Berlin, Professor W. Waldeyer; University of Erlangen, Professor Paul Gordan; University of Gottingen, Professor Franz Kielhorn; University of Heidelberg, Professor A. Merx; University of Kiel, Professor Friedrich Blass; University of Munich, Professor Ludwig Boltzmann; University of Rostock, Professor Friedrich Hashagen; University of Strasburg, Professor G. F. Knapp.

Holland.—University of Leyden, Professor C. P. Tiele and Professor H. Oort, Rector; University of Amsterdam, Professor B. J. Stockvis, Rector Magnificus; University of Utrecht, Professor H. Snellen, Rector Magnificus.

Hungary.—University of Buda-Pesth, Professor A. Vambéry, Professor Z. Beothy.

Italy.—University of Bologna, Professor A. Gaudenzi; Accademia della Crusca, Florence, Sir J. Kingston James; Accademia dei Lincei, Rome, Professor F. Brioschi.

Norway.—University of Christiania, Professor F. Hagerup.

Russia.—University of St. Petersburg, Dr. T. T. Martens and Dr. N. E. Wedenski.

Switzerland.—University of Basle, Professor J. Kollmnan; University of Bern. Professor T. Studer, Rector; University of Geneva. Professor Nicole; University of Lausanne, Professor A. Maurer, Rector.

University of Cambridge.—Dr. J. Peile, Vice-Chancellor; Rev. H. M. Butler, Master of Trinity College; Professor A. Macalister, Sir G. G. Stokes, Bart.

University of Oxford.—Rev. H. Boyd, Vice-Chancellor; Sir H. Acland, Bart.; the Bishop of Oxford.

From 4 to 6 P.M. there was a garden party at the Royal Hospital, Kilmainham, given by General Lord Wolseley and Lady Wolseley, which was attended by a large number of guests; and at 8 P.M. the same evening there was a dramatic performance at the Gaiety Theatre. The theatre was crowded from pit to ceiling by guests and citizens, the National Anthem being sung on the arrival of His Excellency the Lord Lieutenant. The first play was a comic sketch written by Dr. Woods and C. W. Wilson, A.B., entitled "Botany Bay."

On Friday, the 8th inst., in the Examination Hall of Trinity College, addresses were delivered to the students by guests of the University. The chief speakers were: Professor Wilhelm Waldeyer of Berlin; Professor Cremona of Rome, who spoke in Italian; Professor Max Müller, who delivered an eloquent and interesting address: M. Leon Say; General Walker of Boston; and Professor G. Bonet-Maury of Paris. Later in the evening the Lord Chancellor gave a banquet to 150 guests in the dining-hall of the King's Inns. The toast of "The Universities of the World" was given by Professor Dowden in felicitous language and was replied to by Professor Cremona, Dr. Martens (St. Petersburg) and Baron von Richthofen. The University ball in the Leinster Hall the same evening was a brilliant and successful affair and fitly terminated the week's proceedings. Earlier in the day Lord and Lady Rosse entertained at Birr Castle a large number of Tercentenary visitors, luncheon and afternoon tea being provided. Great interest was shown in Lord Rosse's famous telescope, which was exhibited and minutely explained by the astronomer, Dr. Boedicker. The visitors, who thoroughly enjoyed their day's outing, were conveyed in his lordship's vehicles to and from the railway station, special trains being engaged both going and returning. The weather during the week, it may be added, was exceptionally good.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following list is a continuation of the contributions received at the Mansion House up to Thursday last in aid of the Metropolitan Hospital Sunday Fund. The amount received up to the present is £37,100; the amount at the corresponding date in 1891 was £39,250.

	£	*s.*	*d.*
St. Peter's, Cranley gardens (Rev. Dr. Ridgeway)	226	15	3
West London Synagogue for British Jews (per Rev. Dr. Marks)	239	2	0
Wimbledon Churches (per Rev. Canon Haygarth)	225	8	8
St. John's Wood Presbyterian Church (Rev. J. Munro Gibson, D.D.)	91	8	7
George Palmer, Esq (a further)	105	0	0
Holy Trinity, Upper Tooting (Rev. J. H. Potter)	35	2	9
St. Matthew, West Kensington (Rev. W. C. Tucker)	50	0	0
St. Luke, Westbourne Park (Rev. R. J. Knowles)	72	11	9
St. George's, Bloomsbury (Rev. A. Boyd Carpenter)	50	0	10
All Saints, Notting Hill (Rev. Canon Trench)	44	10	5
Newington (Surrey) Parish Church (Rev. Canon Palmer)	25	16	2
All Saints, with Holy Trinity, Wandsworth (Rev. Wm. Reed)	61	0	0
St. Sophia Greek Church, Bayswater (Very Rev. the Archimandrite)	84	18	3
Holy Trinity, Westminster (Rev. G. Miller)	20	0	0
"C. S. A." (a further)	20	0	0
Magdalene Hospital Chapel, Streatham (Rev. W. Watkins)	34	7	9
St. Stephen's, Westminster (Rev. W. H. C. Twining)	46	13	10
Berkeley Chapel, Mayfair (Rev. F. G. Elliot)	50	0	0
Upper Holloway Baptist Chapel (Rev. J. R. Wood)	30	15	6
St. Stephen's, Clapham park (Rev. Dr. Wainwright)	32	13	3
Haverstock-hill Congregational Chapel (Rev. J. Nunn)	22	10	0
Upper Norwood Congregational Church (Rev. Geo. Martin)	41	7	3
St. Alfege's, Greenwich (Rev. Brooke Lambert)	23	15	11
Christ Church, Harrow-road (Rev. H. G. Thwaites)	23	0	11
North Finchley Congregational Church (Rev. Thos. Hill)	27	5	4
Rectory-place Congregational Church, Woolwich (Rev. A. J. Viner)	20	0	0
St. Barnabas, Pimlico (Rev. Alfred Gurney)	29	10	0
Box outside Mansion House	5	6	3
St. Mary and St. John the Divine, Balham (Rev. Thos. Bates)	55	8	11
St. James', Hatcham (Rev. W. H. Stone)	41	12	0
All Saints, Putney (Hon. and Rev. R. Henley)	32	0	0
Islington Parish Church (Rev. W. H. Barlow)	20	11	6
St. Stephen with St. Thomas Iron Church, Paddington (Rev. P. Harvey Brooks)	100	11	11
St. Peter, Bayswater (Rev. C. N. Moore)	109	11	8
Christ Church and St. Barnabas, North Finchley (Rev. H. Stephens)	28	16	11
Blackheath Congregational Church (Rev. Chas. Wilson, M.A.)	100	16	5
St. Stephen, Gloucester-road (Rev. J. P. Waldo)	218	13	6
St John the Divine, Kennington (Rev. C. E. Brooke)	66	11	1
St. John's, Notting-hill (Prebendary R. Thornton)	74	12	2
St. Agnes', Kennington Park (Rev. T. B. Dover)	25	3	1
Wilmington Parish Church (Rev. R. Jamblin)	22	2	6
J. J. Randolph, Esq.	20	0	0
Harecourt Chapel, Canonbury (Rev. H. Simon)	20	0	0
South Kensington Presbyterian Church (Rev. R. Milner)	21	0	0
St. John the Baptist, Leytonstone (Rev W. J. Bettison)	20	3	4
St. Paul's, Lorrimore-square, and Missions (Rev. C. H. Simpkinson)	30	4	9
St. James's, Norland-square (Rev. A. Williamson)	30	0	0
Streatham-hill Congregational Church (Rev. J. P. Gledstone)	40	1	5
East Finchley Congregational Church (Rev. H. Barron)	26	8	1
St. John's, Deptford (Rev. E J. Hone)	47	6	2

"MEDICAL AID SOCIETIES AND THE PROFESSION."

In an annotation bearing the above heading on page 93 of our last issue, we stated that we should be happy to obtain a legal opinion on the points raised by our correspondents if one of the bonds in question were furnished to us. A form of agreement has been submitted on which we have, through our solicitors, obtained a legal opinion from Mr. J. W. Gordon, Barrister-at-Law, which we subjoin.

Opinion.

The agreement as to which I am asked to advise the Editors of THE LANCET is made between a medical practitioner of the one part and the trustees of an unregistered medical aid society of the other part and binds the former to serve the society in a professional capacity, giving his whole time thereto in return for a salary of one hundred and fifty pounds a year in addition to a residence and an allowance equal to three-fourths of the amount earned by him in the way of midwifery and vaccination fees. It is a special term of this agreement that the medical officer "agrees that he will not, either directly or indirectly, undertake private practice while in the service of the said Association, and on his engagement with the said Association being determined he will not, either directly or indirectly, practise as a physician or surgeon within a radius of seven miles of the surgery within a period of five (years[1]) from the time of his engagement as aforesaid being determined, under a penalty of two hundred pounds as liquidated ascertained damages."

These terms appear to be very onerous, but I entertain no doubt that the agreement is binding and could be enforced by the trustees. Two remedies would be open to them if the medical man were to commence practice in violation of the agreement—that is to say, an injunction to restrain the breach or a judgment for the amount of the penalty. If the latter remedy were followed they could recover the full amount—£200—of the agreed damages.

I will deal in order with the points about which I understand doubt to have arisen.

1. Although the society is unregistered, the agreement, being made with trustees, could be by them enforced.

2. There is consideration sufficient to support the agreement in the fact that the medical officer received his appointment upon these terms. This has long been settled law and was so laid down by the late Master of the Rolls (Jessel) in the case of Gravely *v.* Barnard (18 L. R. Eq. 518).

3. The limits imposed are not unreasonable in respect either of space or time. So long ago as the end of the last century it was decided that a radius of ten miles and a period of fourteen years were for this purpose reasonable

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[1] The word "years" is omitted from the copy agreement supplied to me.—J. W. G.

limits. (Davis *v.* Mason, 5 T.R., 120.) More recent decisions make it clear that no time limit need be imposed if the undertaking be reasonably limited in respect of the prohibited area.

4. The language of the clause in question is very involved and indeed ungrammatical; so much so that upon first reading I was disposed to doubt whether the meaning had been made sufficiently clear for a Court to act upon it. But upon fuller consideration I am satisfied that the intention of the parties is made clear enough. In coming to this conclusion I have borne in mind the very vague terms of a similar agreement to which effect was given in the case of Sainter *v.* Ferguson (7 C.B. 716). J. W. GORDON.

Plowden-buildings, Temple, July 14th, 1892.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Withington Urban District.—The annual death-rate in this local board district last year was 15·0 per 1000, a rate in excess of that which has for some years past prevailed. The zymotic rate was as low as 0·6, and no death occurred from any of the continued fevers or from small-pox. When attacks of infectious disease occurred they were promptly attended to; some cases were removed to Monsall Hospital and local sanitary defects were dealt with. Measures are being adopted as to the disposal of refuse, but the necessary preliminaries do not appear to be settled. The ash-pit privy still retains its hold on the district, 2947 such structures being in existence; and, contrary to common experience, the scavenging is said to be perfectly satisfactory. Appended to Dr. Railton's report is a good account of the work done by the sanitary inspector.

Epping Rural Sanitary District.—Following upon an account of the attacks from infectious diseases, which included twenty-three of scarlet fever and fifteen of diphtheria in Chigwell alone, comes a somewhat detailed statement as to the sanitary inspections carried out during the year. The value of real isolation seems to have but little hold on the public mind, for only two cases were removed to the sanatorium. The main sanitary requirements of the district are set out by Mr. Trevor Fowler as follows:—Better houses for the working classes; better drainage for villages, hamlets and groups of houses; abolition of cesspools and connexion of houses with existing sewers; the supply of proper water in place of that derived from surface wells; the securing of certain urban powers; and the proper fitting of the sanatorium. The death-rate for the year was 16·9 per 1000.

Whitechapel.—Mr. Loane's district now includes a population of 74,261, and the death-rate during 1891 was 24·7 per 1000. Whilst the general death-rate is greater than that for the metropolis, the zymotic rate contrasts favourably with that for London as a whole. This must be regarded as satisfactory in view of the difficulties which Whitechapel presents. Of this class of diseases the largest number of deaths was thirty from diphtheria, a disease which is making substantial inroads on large communities. Improved dwelling accommodation is continuing to be made and 337 fresh apartments have been provided in model dwellings during the year; houses unfit for habitation have been closed, pulled down or repaired, and this on an extensive scale. Mr. Loane also gives an excellent summary of the London Public Health Act such as must be of considerable value to many residents and others who are not in touch with Acts of Parliament. Great improvements are anticipated as work progresses on the new lines indicated, and we hope Mr. Loane is right in saying that the "house sweaters" will find the Act in this respect a "terror" to them. The sanitary staff will need increasing for the steady increase in duty that is in prospect, and to this aspect of affairs attention is very properly drawn at the onset.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6362 births and 3347 deaths were registered during the week ending July 9th. The annual rate of mortality in these towns, which had declined in the preceding three weeks from 17·8 to 17·1 per 1000, was again 17·1 last week. In London the rate was 17·2 per 1000, while it averaged 17·1 in the thirty-two provincial towns. The lowest rates in these towns were 10·2 in Norwich, 10·3 in Croydon, 11·1 in Cardiff, and 13·0 in Brighton; the highest rates were 20·6 in Wolverhampton, 20·1 in Manchester, 22·1 in Liverpool, and 23·2 in Sunderland. The 3347 deaths included 503 which were referred to the principal zymotic diseases, against 477 and 486 in the preceding two weeks; of these, 161 resulted from diarrhœa, 134 from measles, 83 from whooping-cough, 49 from scarlet fever, 47 from diphtheria, 28 from "fever" (principally enteric), and 1 from small-pox. The lowest death-rates from these diseases were recorded in Brighton, Norwich, Huddersfield and Bolton; the highest in Preston, London, Leicester, and West Ham. The greatest mortality from measles occurred in London, West Ham, Birmingham, Nottingham, Leicester, Gateshead, and Halifax; from scarlet fever in West Ham, Preston, Swansea, and Plymouth; from whooping-cough in Manchester, Burnley, and Blackburn; from "fever" in Preston and in Hull; and from diarrhœa in Liverpool, London, and Leicester. The 47 deaths from diphtheria included 30 in London, 4 in Birmingham, 2 in West Ham, 2 in Nottingham, and 2 in Newcastle-upon-Tyne. A fatal case of small-pox was registered in London, but not one in any of the thirty-two provincial towns; 27 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and 5 in the Highgate Small-pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2372, against numbers increasing from 1226 to 2211 on the preceding fifteen Saturdays; 301 new cases were admitted during the week, against 284 and 331 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 181 and 185 in the preceding two weeks, declined to 170 last week, and were 29 below the corrected average. The causes of 59, or 1·8 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bristol, Nottingham, Bradford, Leeds, and in twelve other smaller towns; the largest proportions of uncertified deaths were registered in Cardiff, Birmingham, Liverpool, Preston, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·3 and 18·0 in the preceding two weeks, further declined to 17·6 during the week ending July 9th, but was 0·5 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 12·0 in Perth and 12·6 in Leith to 19·1 in Paisley and 20·6 in Glasgow. The 489 deaths in these towns included 22 which were referred to measles, 21 to whooping-cough, 7 to diarrhœa, 5 to scarlet fever, 4 to "fever," 3 to diphtheria, and not one to small-pox. In all, 62 deaths resulted from these principal zymotic diseases, against 85 and 83 in the preceding two weeks. These 62 deaths were equal to an annual rate of 2·2 per 1000, which was 0·4 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 35 and 31 in the preceding two weeks, further declined last week to 22, of which 20 occurred in Glasgow. The deaths referred to whooping-cough, which had been 27 and 23 in the previous two weeks, further fell to 21 last week, and included 19 in Glasgow. The 7 fatal cases of diarhœa also showed a slight further decline from those recorded in recent weeks. The deaths from scarlet fever, which had been 3 and 9 in the preceding two weeks, fell to 5 last week, of which 3 occurred in Glasgow and 2 in Edinburgh. The 3 fatal cases of diphtheria showed a decline of 4 from the number in the previous week;

and included 2 in Glasgow and 1 in Paisley. The deaths referred to diseases of the respiratory organs in these towns, which had been 80 and 89 in the preceding two weeks, declined last week to 71, and were 6 below the number in the corresponding week of last year. The causes of 52, or nearly 11 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined from 31·6 to 24·6 per 1000 in the preceding three weeks, further fell to 21·8 during the week ending July 9th. During the thirteen weeks of last quarter the death-rate in the city averaged 31·3 per 1000, against 18·9 in London and 17·8 in Edinburgh. The 146 deaths in Dublin during the week under notice showed a decline of 19 from the number in the preceding week and included 13 which were referred to measles, 3 to diarrhœa 2 to whooping-cough, 1 to diphtheria, 1 to "fever," and not one either to small-pox or scarlet fever. In all, 20 deaths resulted from these principal zymotic diseases, equal to an annual rate of 3·0 per 1000, the zymotic death-rate during the same period being 3·4 in London and 0·8 in Edinburgh. The fatal cases of measles, which had declined from 27 to 20 in the preceding three weeks, further fell to 13 last week, a lower number than in any week since March last. The 3 deaths from diarrhœa exceeded the number in any recent week. The fatal cases of whooping-cough, which had been 5 and 1 in the previous two weeks, were 2 last week. The death referred to diphtheria was the first recorded within the city since the beginning of May last. The 146 deaths registered in Dublin last week included 27 of infants under one year of age and 31 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons slightly exceeded the numbers recorded in the preceding week. Eight inquest cases and 5 deaths from violence were registered; and 35, or nearly a fourth, of the deaths occurred in public institutions. The causes of 10, or nearly 7 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING JUNE, 1892.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality during the month of June in each of the forty-one sanitary districts of London. With regard to the notified cases of infectious disease in London during last month, it appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the accompanying table was equal to 9·9 per 1000 of the population, estimated at 4,263,294 persons in the middle of this year. Owing to the epidemic prevalence of scarlet fever in the metropolis this rate shows a further increase upon those recorded in the preceding four months, which had risen from 5·1 to 9·4 per 1000. Among the various sanitary districts the rates last month were considerably below the average in Paddington, Fulham, Hampstead, Strand, St. Saviour (Southwark), St. Olave (Southwark), and Rotherhithe; while they showed the largest excess in Westminster, Holborn, City of London, Bethnal-green, Whitechapel, Mile End Old Town, Poplar, Newington, Woolwich, and Plumstead. The prevalence of small-pox showed a marked decline in London, an average of 16 cases weekly being notified in June, against 27 in May; of the 80 cases notified during last month 16 belonged to Shoreditch, 8 to Whitechapel, 7 to Islington, 7 to Lambeth, and 7 to Plumstead sanitary districts. The Metropolitan Asylum Hospitals and the Highgate Small-pox Hospital contained 40 small-pox patients at the end of June, against 108 at the end of May; the weekly admissions averaged 11, against 29 during the preceding month. The prevalence of scarlet fever during June showed a further marked increase upon that recorded in recent months. This disease was proportionally most prevalent in Hackney, Holborn, City of London, Whitechapel, Mile End Old Town, Poplar, Newington, Woolwich, and Plumstead. The Metropolitan Asylum Hospitals contained 2117 scarlet fever patients at the end of June, against numbers increasing from 1142 to 1652 at the end of the preceding four months; the weekly admissions averaged 238, against 118, 170, and 200 in the previous three months. Diphtheria showed the highest proportional prevalence during June in Hammersmith, Westminster, Hampstead, City of London, Bethnal Green, Whitechapel, and Mile End Old Town. There were 255 cases of diphtheria under treatment in the Metropolitan Asylum Hospitals at the end of June, against numbers increasing from 198 to 220 at the end of the preceding four months; the weekly admissions averaged 49, against 28, 33, and 41 in the previous three months. Among the various sanitary districts enteric fever was proportionally most prevalent in St. Martin-in-the-Fields, Bethnal Green, and Rotherhithe. The Metropolitan Asylum Hospitals contained 57 enteric fever patients at the end of June, against numbers steadily declining from 285 to 47 at the end of the preceding seven months; the weekly admissions averaged 10, against 9 and 8 in the preceding two months. Erysipelas showed the highest proportional prevalence during June in Marylebone, Bethnal Green, Whitechapel, Limehouse, and Greenwich.

The mortality statistics in the accompanying table relate to the deaths of persons actually belonging to the various metropolitan sanitary districts, the deaths occurring in the institutions of London having been distributed among the various sanitary districts in which the patients had previously resided. The distribution of these deaths, and especially of those resulting from zymotic diseases, affords the most trustworthy data that can be secured upon which to calculate reliable rates of mortality. During the five weeks ending July 2nd the deaths of 6910 persons belonging to London were registered, equal to an annual rate of 16·9 per 1000, against rates declining from 24·2 to 18·8 in the preceding four months. The lowest death-rates in the various sanitary districts during June were 10·0 in Hampstead, 11·3 in Lewisham (excluding Penge), 11·4 in Wandsworth, 12·0 in Plumstead, 13·8 in Battersea, 14·3 in Hackney, and 14·4 in Islington; in the other sanitary districts the rates ranged upwards to 21·6 in Limehouse, 21·9 in the Strand, 22·2 in Mile End Old Town, 22·4 in Newington, 23·4 in Holborn, 23·7 in Whitechapel, and 29·9 in St. George-in-the-East. During the five weeks of June 1249 deaths were referred to the principal zymotic diseases in London; of these, 556 resulted from measles, 200 from diarrhœa, 187 from diphtheria, 159 from whooping-cough, 110 from scarlet fever, 31 from "fever" (including 28 from enteric and 3 from simple fever) and 6 from small-pox. These 1249 deaths were equal to an annual rate of 3·1 per 1000, against rates steadily increasing from 2·5 to 3·3 in the preceding four months. Among the various sanitary districts the lowest zymotic death-rates were recorded in St. Martin-in-the-Fields, Strand, St. Olave (Southwark), Lewisham, Woolwich and Plumstead; and the highest rates in Hammersmith, Whitechapel, St. George-in-the-East, Mile End Old Town, St. George (Southwark) and Newington. Six fatal cases of small-pox belonging to London were registered during June, of which 2 belonged to St. Luke, and one each to Chelsea, Camberwell, Greenwich, and Plumstead. The 556 deaths referred to measles exceeded by as many as 235 the corrected average number in the corresponding month of the preceding ten years; among the various sanitary districts this disease showed the highest proportional fatality in Paddington, Kensington, Hammersmith, Whitechapel, Mile End Old Town, and Newington. The 110 fatal cases of scarlet fever were 22 above the corrected average number; this disease was proportionately most fatal in Westminster and Newington. The 187 deaths referred to diphtheria were nearly double the corrected average; this disease showed the highest proportional fatality in Hammersmith, City of London, Whitechapel, St. George-in-the-East, and Mile End Old Town. The 159 fatal cases of whooping-cough were 118 below the average; among the various sanitary districts this disease was proportionally most fatal in Limehouse, St. George (Southwark) and Newington. The 28 deaths referred to enteric fever were 17 below the corrected average; this disease showed no marked excess last month in any of the sanitary districts. The 200 fatal cases of diarrhœa were 55 above the average; this disease was most fatally prevalent in Shoreditch, Whitechapel, and Mile-end Old Town. In conclusion, it may be stated that the mortality in London during June from these principal zymotic diseases in the aggregate was as much as 22 per cent. above the average, owing principally to the epidemic prevalence of measles.

Infant mortality in London, measured by the proportion of deaths under one year of age to registered births, was equal to 125 per 1000 during June; the lowest rates of infant mortality were recorded in St. James (Westminster), St. Martin-in-the-Fields, St. Olave (Southwark), Rotherhithe, Wandsworth, Woolwich, and Plumstead; the highest rates in Holborn, Clerkenwell, Shoreditch, Whitechapel, and St. George-in-the-East.

MONTHLY ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON.—JUNE, 1892.

(Specially compiled for THE LANCET.*)*

Sanitary areas.	Estimated population in the middle of 1892.	NOTIFIED CASES OF INFECTIOUS DISEASE.												DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Croup.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,263,294	80	2471	694	1	182	10	18	522	48	4	4030	9·9	0	559	110	187	159	—	28	3	200	1240	3·1	6919	16·9	125
West Districts.																											
Paddington	119,199	—	42	14	—	4	—	2	6	—	—	68	5·9	—	37	2	4	2	—	—	—	5	50	4·4	209	18·3	136
Kensington	166,721	1	67	21	—	6	—	1	12	2	—	110	6·9	—	34	2	5	3	—	2	—	2	48	3·0	262	16·8	141
Hammersmith	100,642	2	39	30	—	2	—	—	11	—	—	84	8·7	—	40	1	12	4	—	—	1	9	67	6·9	186	19·3	137
Fulham	98,105	1	34	8	—	6	—	—	10	—	—	59	6·3	—	7	—	1	7	—	—	—	7	22	2·3	137	14·6	150
Chelsea	97,300	2	40	15	—	1	—	—	10	2	—	70	8·5	1	11	2	3	3	—	—	—	6	26	2·8	152	16·3	131
St. George (Hanover-square)	76,916	—	44	15	—	2	—	—	—	—	—	61	8·3	—	10	1	3	2	—	1	—	—	17	2·3	113	15·3	123
Westminster	55,203	—	33	27	—	1	—	1	6	—	—	68	12·8	—	2	5	5	2	—	—	—	1	15	2·8	97	18·3	141
St. James (Westminster) ..	24,308	2	8	3	—	—	—	1	4	—	—	18	7·7	—	1	—	4	—	—	—	—	—	5	2·1	36	15·4	74
North Districts.																											
Marylebone	140,709	—	68	39	—	6	—	—	21	2	—	136	9·9	—	8	7	4	3	—	1	—	6	29	2·1	269	19·3	149
Hampstead	71,652	—	20	17	—	2	—	—	4	—	—	43	6·3	—	4	—	5	1	—	—	—	3	13	1·9	69	10·0	125
St. Pancras	234,207	3	83	30	—	10	—	2	31	2	—	161	7·2	—	25	4	9	7	—	2	—	7	54	2·4	399	17·8	128
Islington	324,451	7	114	69	—	10	1	—	47	3	—	251	8·1	—	16	4	12	7	—	2	—	21	62	2·0	418	14·4	144
Hackney	235,370	4	180	42	—	15	2	1	23	3		270	12·0	—	17	8	12	6	—	1	—	7	51	2·3	322	14·3	93
Central Districts.																											
St. Giles	39,071	1	18	5	—	2	—	—	7	1	—	34	9·1	—	2	1	2	—	—	—	—	2	7	1·9	63	16·8	68
St. Martin-in-the-Fields	14,204	—	2	3	—	4	—	—	—	—	—	9	6·6	—	—	—	—	—	—	—	—	—	—	—	23	16·9	—
Strand	21,256	—	4	4	—	1	—	—	1	—	—	10	4·3	—	2	—	—	—	—	—	—	—	2	0·9	51	21·0	111
Holborn	32,012	—	20	3	—	2	—	1	4	—	—	30	12·4	—	3	2	—	2	—	—	—	4	11	3·5	74	23·4	198
Clerkenwell	65,482	—	33	8	—	2	1	—	10	1	—	55	8·8	—	7	1	2	1	—	—	—	4	15	2·4	125	19·9	175
St. Luke	41,850	4	25	3	1	2	1	—	7	1	—	44	11·0	2	5	2	—	—	—	—	—	3	12	3·0	82	20·4	102
City of London	36,692	1	45	14	—	3	—	—	5	1	—	69	10·6	—	3	3	4	1	—	—	—	—	11	3·1	62	17·6	143
East Districts.																											
Shoreditch	123,083	10	78	17	—	7	—	—	22	2	—	142	12·0	—	21	5	7	3	—	1	1	15	53	4·5	239	20·2	160
Bethnal Green	129,408	3	82	33	—	10	—	—	29	3	—	160	12·9	—	27	4	9	6	—	3	—	6	55	4·4	232	18·7	133
Whitechapel	74,853	8	57	38	—	2	—	2	16	2	—	125	17·4	—	20	4	8	4	—	—	—	8	44	6·1	170	23·7	185
St. George-in-the-East	46,343	—	21	9	—	—	—	—	2	2	—	34	7·8	—	8	2	6	1	—	—	—	6	23	5·3	130	29·0	191
Limehouse	57,480	1	33	7	—	3	—	1	11	5	—	61	11·1	—	9	2	3	5	—	—	—	2	21	3·8	119	21·6	145
Mile End Old Town	107,811	3	81	27	—	5	—	2	12	2	—	132	12·8	—	23	3	9	6	—	2	—	14	57	5·5	230	22·2	129
Poplar	167,857	—	145	42	—	9	3	—	20	3	—	222	13·8	—	31	3	5	8	—	1	—	9	57	3·5	298	18·5	119
South Districts.																											
St. Saviour (Southwark)	26,073	—	4	5	—	1	—	—	3	1	—	14	5·4	—	4	—	1	—	—	—	—	—	5	1·9	50	19·3	135
St. George (Southwark)	59,816	—	25	4	—	3	—	—	7	—	—	39	6·8	—	11	2	3	7	—	1	—	4	28	4·9	116	20·2	119
Newington	116,610	—	111	7	—	8	—	—	21	—	—	147	13·1	—	34	7	2	12	—	2	—	2	59	5·3	250	22·4	133
St. Olave (Southwark)	12,787	—	6	1	—	—	—	—	—	1	—	8	6·5	—	2	—	—	—	—	—	—	—	2	1·6	18	14·7	70
Bermondsey	84,440	—	65	5	—	—	—	1	8	1	—	80	9·9	—	17	4	—	2	—	1	—	3	27	3·3	158	19·5	124
Rotherhithe	39,459	—	11	6	—	5	—	—	2	1	—	25	6·6	—	8	—	3	—	—	—	—	3	14	3·7	69	18·2	86
Lambeth	277,917	7	169	43	—	5	11	1	40	3	4	283	10·6	—	25	13	15	16	—	1	1	14	85	3·2	429	16·1	108
Battersea	166,313	—	103	29	—	8	—	2	18	1	—	161	10·7	—	14	4	5	8	—	—	—	7	38	2·5	207	13·8	133
Wandsworth	164,003	—	74	13	—	9	—	—	20	1	—	117	7·4	—	17	2	5	4	—	2	—	6	36	2·3	179	11·4	68
Camberwell	241,465	3	176	21	—	7	—	—	20	—	—	227	9·8	1	30	6	9	6	—	2	—	8	62	2·7	344	14·9	110
Greenwich	169,734	2	114	22	—	2	—	—	27	2	—	169	10·4	1	12	1	9	7	—	—	—	5	35	2·2	269	16·0	111
Lewisham (excluding Penge)	74,073	—	40	1	—	—	—	—	9	—	—	50	7·0	—	—	1	—	8	—	—	—	1	10	1·4	81	11·3	99
Woolwich	41,370	—	48	1	—	2	—	—	3	—	—	54	13·6	—	2	—	1	2	—	2	—	—	7	1·8	63	15·9	86
Plumstead	91,704	7	100	2	—	5	—	—	10	—	—	124	13·8	1	4	2	—	3	—	1	—	3	14	1·6	108	12·0	74
Port of London	—	2	—	—	—	1	—	—	—	—	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

THE SERVICES.

THE PROFESSORSHIPS AT NETLEY.

THE question of the professorships at Netley gravely affects the interests of both the Army Medical Service and Army Medical School. Surgeon-Colonel Godwin, it will be remembered, was appointed to the Chair of Military Surgery at Netley in succession to Sir Thomas Longmore, C.B. It has been decided that Surgeon-Colonel Godwin is not to draw the pay and allowances of his rank, but those of the professorship he holds; and as there is a considerable difference between the two, Surgeon-Colonel Godwin not unnaturally objects to be subjected to a serious pecuniary loss for the honour of being Professor of Military Surgery at Netley. Owing to the death of Sir William Aitken, the appointment of Professor of Pathology is also vacant. No officer of the Medical Staff has probably the same claims to the appointment, on the score of ability, special knowledge and previous training as assistant professor of the subject, as Surgeon-Colonel F. H. Welch; but the decision in the case of Surgeon-Colonel Godwin is applicable to both cases alike and governs the decision of the officers in question. Surgeon-Colonel Godwin resigns his professorship and Surgeon-Colonel Welch declines to accept that of pathology without the emoluments of his present rank. It is understood that the former officer reverts to the service and goes to India, and the latter will probably proceed to the Devonport district as principal medical officer. This will deprive the list of brigade surgeons of two steps of promotion. It seems probable that a civilian will have to be selected for the chair of Pathology in succession to Sir William Aitken; but we may assume that his chair of Military Surgery cannot be filled by anyone but a military medical officer with the requisite rank, reputation, experience and qualifications for such an appointment. It is a very laudable ambition for a medical officer to desire to fill a professorial chair at the Netley school and it seems to be distinctly in the interest of the public service that such appointments should be regarded as prizes for medical officers. It must surely be a wise policy to encourage medical officers to maintain and develop a high standard of professional knowledge and efficiency and to strive to qualify themselves for appointments in their own special institutions.

THE ROYAL UNITED SERVICE INSTITUTION.

A good deal of interest has been displayed of late in regard to the financial position and prospects of the Royal United Service Institution. The institution has done good work in the past. We can recall some excellent lectures delivered within its walls by the late Professors Parkes and De Chaumont, and in these days, when army hygiene and the application of modern medicine to modern war are matters of great interest, there must be a number of subjects on which medical officers are well qualified to speak. An institution of the kind should bring together representatives of all branches of the service and be instrumental in disseminating much useful information on various subjects which dovetail into one another in naval and military services. The powers of the institution in this direction might possibly be further developed. Courses of lectures of a thoroughly practical kind might be given by experts on a variety of subjects not only to officers, but to non-commissioned officers and men of the Army, Militia and Volunteer forces. It has been urged that the medical services should support the institution by joining it in larger numbers than they at present do.

MOVEMENTS OF THE MEDICAL STAFF.

Surgeon-Captain Sawyer has been granted leave from Gibraltar. Surgeon-Captain H. Adamson has re-embarked for Bombay. Surgeon-Captain C. G. Woods has rejoined at Portsmouth, from sick leave. Surgeon-Captain Bostock has resumed his duties in London, on return from Pirbright. Surgeon-Lieutenant-Colonel Finlay has left Aldershot on leave. Surgeon-Lieutenant-Colonel Beamish has been appointed to the Royal Arsenal, Woolwich, in succession to Surgeon-Major Murphy, deceased. Surgeon-Lieutenants Mitchell, Hennessy and Tyacke have reported themselves at Chatham for duty in the Thames district. Surgeon-Captain Burke has rejoined at Colchester, from leave. Surgeon-Lieutenant Dunn has joined at Woolwich for duty. Surgeon-Colonel Jameson has arrived from Egypt, on sick leave. Surgeon-Captain Reckitt has left Shorncliffe on leave. Surgeon-Captain Freyer has rejoined at Belfast. Brigade-Surgeon-Lieutenant-Colonel O'Brien has left Dublin, on leave of absence. Surgeon-Captain Baylor has proceeded to Kilkenny for duty.

By the death of Surgeon-General Hassard, retired pay, a good-service pension becomes available for disposal. As Surgeon-General Hassard obtained this pension whilst on the effective list the recipient of the vacant distinction will presumably be a full-pay officer.

INDIAN MEDICAL SERVICE.

Surgeon-Captain H. A. de Lom, M.S., is attached to the Station Hospital, Colaba, for duty. — Surgeon-Captain H. W. G. Macleod, M.B., 19th (Punjab) Regiment of Bengal Infantry, has been permitted to resign the service from April 25th, 1892, subject to Her Majesty's approval.—Surgeon-Captain T. Grainger is appointed to officiate as Civil Surgeon at Champaran during the absence, on deputation, of Surgeon-Major E. Bovill.—Surgeon-Captain J. G. Jordan is appointed to act as Civil Surgeon of Jessore.—Surgeon-Captain W. H. M. Ingham, on expiration of sick leave, is ordered to do duty in Rangoon district.—On return from deputation duty with the Government of India, Military Department, Surgeon-Captain W. G. Thorold is appointed to the civil medical duties of the Kheri district.

NAVAL MEDICAL SERVICE.—The appointment of Principal Medical Officer at Melville Naval Hospital, Chatham, rendered vacant by the transference of Deputy-Inspector-General T. S. Burnett to Jamaica, has been conferred by the Admiralty on Deputy-Inspector-General Belgrave Ninnis, M.D.—Staff Surgeon A. L. Christie, M.B., has been appointed to the *Naiad*; Fleet Surgeon T. M. Clement, M.D., to the *Clyde*; Surgeon J. O. B. Williams, M.B., to the *Iron Duke*; and Surgeon J. J. Walsh to the *Bramble*.

MILITIA MEDICAL STAFF CORPS. — Hants Company: Surgeon-Captain Walter Scott Warlters from Norwich Company Volunteer Medical Staff Corps to be Surgeon-Captain (dated June 29th, 1892).

VOLUNTEER CORPS.—*Artillery:* 1st Devonshire (Western Division, Royal Artillery): Charles Frederick Rudd, Gent., to be Surgeon-Lieutenant (dated July 9th, 1892).—2nd East Riding of Yorkshire (Western Division, Royal Artillery): Surgeon-Lieutenant Albert Wilson to be Second Lieutenant (dated July 9th, 1892).

Correspondence.

"Audi alteram partem."

"ASPIRATION IN PNEUMOTHORAX."

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me a few lines in reply to the letters in THE LANCET of July 2nd by Professor Gairdner and Dr. Guthrie on the above subject. Dr. Gairdner asks how it was ascertained that no air passed out of the pleural cavity on simple puncture. This conclusion was arrived at from the facts that no rush of air was to be felt, that no movement was communicated to a piece of wool held over the end of the hollow needle and that no change in the position of the displaced heart could be made out. Dr. Gairdner further infers that if air passed out of the pleural cavity by means of aspiration "it would also pass out without the aspirator to such an extent as was needful to relieve pressure." What pressure is meant? The fact that no air escaped after simple puncture indicated clearly that the intra-pleural pressure was not greater than that of the atmosphere, and that therefore relief could come only by slow re-expansion of the retracted lungs, which would allow of the heart swinging back towards its normal situation and thus free the embarrassed circulation. Dr. Gairdner says that in time this would have taken place, but he seems to forget that the patient was so collapsed that full inspiratory movements were not to be expected, and that syncope from cardiac displacement was imminent. In Dr. Gairdner's very successful case, to which he refers, the conditions were entirely different, for there was a rush of air out of the pleural cavity immediately on puncturing with, presumably, instant relief to the urgent symptoms. On the other hand, what was the object in aspirating? Dr. Gairdner erroneously assumes that it was "remove to the whole or the greater part of the air." I hoped by aspiration to produce such an exhaustion of air in the pleural cavity as would allow of the re-expansion of the *sound* lung, with return of the mediastinum and heart towards their normal position, and as soon as this was affected the needle was withdrawn. This hope was based on the now generally accepted teaching of Dr. Douglas Powell that "the primary cause of displacement of the heart in pneumothorax is not air pressure acting from the diseased side, but lung traction acting upon the healthy side"[1]. Dr. Gairdner seems to imagine that my routine treatment of pneumothorax is by aspiration, but I tried to show in my paper that it was adopted as a last resort to relieve cardiac asthenia, after rest, stimulants, time and finally puncture had failed.

Having tried to reply to the criticisms of Dr. Gairdner on my employment of aspiration in this case I must now consider Dr. Guthrie's advocacy of more frequent aspiration than I ventured to employ, owing to my belief that compression and rest of the lung are beneficial in phthisis. In discussing the pathology Dr. Guthrie confines his attention to the retracted, healthy portion of the lung, which he believes to be adapted for the inroad of the tubercular virus, but ignores the altered condition of the portion of lung which is already phthisical. Before the onset of pneumothorax a consolidated area, except at the extreme apex, is prevented from natural healing by contraction, owing to the rigid chest wall and the traction by the sound part of the lung during inspiration. If rest be secured to the lung by pneumothorax, and if the rigid wall be replaced by an elastic body such as air, nature may then get her opportunity and complete the cure by contraction and cicatrisation. Dr. Guthrie further considers pneumothorax a pure accident, and by no means an indication of active phthisis. While this may be true exceptionally, as in the case of a ruptured emphysematous area, it is not generally so. Professor Gairdner has shown[2] that the progress of tubercular disease in the lungs is accompanied by a plastic inflammation of the neighbouring pleura and that the resulting pleuritic adhesions are often in advance of the actual deposit of tubercle near the surface. Were it not for this "curious and beautifully conservative arrangement" pneumothorax would be the rule and not the exception in phthisis, and its occurrence is usually to be explained by the rapid advance of the disease before pleuritic adhesions have had time to form.

I am, Sirs, yours obediently,

Carlton-hill, N.W., July 11th, 1892. G. A. SUTHERLAND.

"TOOTH CULTURE."

To the Editors of THE LANCET.

SIRS,—Innate imperfections in the tissues, especially in enamel, form the prime factor in the etiology of dental caries, and there exists enough evidence to prove that these imperfections are in the main due to evolutionary and hereditary influences. In all civilised races the size and strength of the whole apparatus of mastication—jaws, muscles and teeth—are inferior. Professor Flower showed some years ago, after examination and measurement of many thousands of specimens, that there is gradual diminution in the size of the teeth from the anthropoid apes through the lower races of man to the European. He constructed a "dental index" and in this the average size of the teeth of the gorilla was represented by 50·8, the Tasmanian by 47·5, other savage and primitive races held intermediate positions, and the European stood at 40·5. Striking evidence of the influence of heredity is afforded daily in dental practice. Nothing is more common than to find in members of the same family jaws and teeth of one general type of quality. Very often the characters are derived from one parent alone—boys "taking after" the mother, girls after the father—and not only does it seem certain that a type of jaw is transmissible but also that a small local deformity or a mal-development of a portion of the maxilla may be passed on to succeeding generations. A tooth or two in the set will also often be found irregularly placed in a parent and some of the progeny; in other instances teeth are to be found presenting in exactly the same situations in parent and child flaws or patches of inferior enamel. It is not uncommon to meet with a mother having first-rate dental tissues who brings forth children whose teeth are inferior and bear the closest resemblance in form and structure to those of the father, and he may be perfectly healthy and free from any physical defect except the dental.

There can be no doubt that enamel and dentine when once fully calcified are not the seat of physiological activity and do not undergo processes of waste and repair. It must be therefore futile to attempt by therapeutic means the prevention of caries by improving the quality of enamel after formation of that tissue. The exteriors of the crowns of all the temporary teeth—from caries of which children suffer so much—are formed at birth; and these teeth can therefore be influenced only through the mother. By the same time the permanent first molars, incisors and canines are so far advanced in development that it is open to doubt whether later treatment can have any effect upon their enamel. That hereditary disease is capable of influencing the development of enamel and dentine has been proved by the observations of Mr. Hutchinson, and, although the typical teeth which he has described are discoverable in only a small percentage of children, unquestionably syphilitic, their occurrence clearly shows that ill-made teeth may result from a constitutional taint. A considerable variety of malformed teeth with pitted rocky ridged or spinous surfaces, commonly classed as "honeycombed" teeth, are frequently met with and are often mistaken for syphilitic teeth. The defects of these teeth are due to causes acting upon the enamel during calcification; probably some form of stomatitis implicating the tooth-sacs in earliest infancy. Mr. Hutchinson has adduced much evidence to prove that the stomatitis in many instances is caused by administration of mercury immediately after birth. It seems sufficiently obvious that if "tooth culture" is to be practised on a rational basis measures must be in the main directed to the improvement of the race. Strict observance of the laws of health will tend to produce good teeth in the nation, and among these laws must be included one insisting upon the use of articles of diet which shall give due exercise to the muscles of mastication and prevent them and the bones to which they are attached from wasting. Such exercise begun early enough may do good in the individual by stimulating the development of the maxillæ and preventing crowding and irregularity of the teeth—a fruitful cause of decay. Crowding leads to lodgment of débris which fermenting produces acid, the indispensable agent in dental caries. It is not likely that dental surgeons will agree with Dr. Harry Campbell, who in THE LANCET of to-day recommends that children should be encouraged to crack nuts with their teeth in order to exercise their jaws, but there is no difficulty in arranging a child's dietary during the whole period of dentition so that articles of food—such as stale crusts and hard biscuits — may be introduced which shall give the masticating apparatus enough work to ensure a more vigorous development than is likely to follow the exclusive use of soft bland substances which require no chewing whatever.

I am, Sirs, yours faithfully,

Wimpole-street, July 9th, 1892. HENRY SEWILL.

"ON ACTINOMYCOSIS OF THE FOOT, COMMONLY KNOWN AS MADURA FOOT."

To the Editors of THE LANCET.

SIRS,—I regret that Mr. Hewlett was not present at the meeting of the Pathological Society when I showed two specimens of Madura disease in the hand and foot, as had he been present he might have saved himself the trouble of criticising "statements which I have been reported to have made."[1] On the meagre evidence of a short report he credits me with having said "actinomycosis bovis cannot be stained by Gram's method unless the saponaceous and calcareous matter be first removed." I certainly did not make any dogmatic statement of this nature. What I did say was, "that at times the fungus masses are so calcified (or saponified) that it is impossible to recognise them as actinomyces until the calcareous (or saponaceous) matter has been removed." This was meant to apply not to actinomycosis bovis alone, but to actinomycosis generally, whether bovis, suis, or hominis. Anyone who has had extensive experience of actinomycosis must have met with cases not unfrequently where no fungus structure could be made out on account of advanced calcification, and where after careful treatment with hydrochloric acid and alcohol the typical structure of the ray-fungus was beautifully exhibited. This is especially common in the pig and the calf, but applies equally to man and the ox. When, therefore, Mr. Hewlett asserts that in "all" cases of actinomycosis bovis Gram's method, with or without previous decalcification, will give brilliant results, I can only explain this on the assumption of a limited experience on his part or of extremely good fortune. When calcification is advanced there is in fact nothing left to be stained by Gram's method, and we can only hope after decalcification to find the mycelial elements which enable us to diagnose the nature of the affection by means of appropriate stains. There are also other inaccuracies in Mr. Hewlett's paper. It must be many years ago that there was the slightest "hesitation in fully recognising the identity of actinomycosis hominis and actinomycosis bovis." For shortly after J. Israel's researches this identity was acknowledged. Whether the fungus is one and the same for the two forms is an open question even now; we may have to deal with varieties of the same species. The difficulty in recognising the identity of mycetoma and actinomycosis cannot and does not lie "in the presence of a network of filaments and the apparent absence of the club-shaped bodies," but it lay in the apparent dissimilarity of the yellow and black forms of the Indian fungus. This latter circumstance has always been the obstacle to accepting Dr. Vandyke Carter's view that mycetoma is a parasitic disease. As a matter of fact the filamentous network in the yellow form was not clearly recognised by Dr. Carter himself, while almost every observer acknowledged its presence in the black form. In a paper which will shortly appear I hope to give unequivocal proof of the actinomycotic nature also of the black variety of mycetoma; a specimen of this form, obtained from the St. Bartholomew's Hospital Museum, showing both clubs and mycelium beautifully.

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[1] Medical and Chirurgical Transactions, vol. lix., p. 185.

[2] Clinical Medicine, pp. 397, 398.

[1] THE LANCET, July 2nd, 1892, pp. 18 and 19.

As far as my experience goes—and this is the usual experience—in cattle the clubs are absent as frequently as in man. But are the rays of any importance in the diagnosis of the fungus? By rays or clubs I mean with others the well-known hyaline fringes in which the mycelial filaments disappear. I cannot understand on what or whose authority Mr. Hewlett asserts that "in cattle the rays readily stain with Gram's method, while there is a central area which as a rule remains unstained." In actinomyces, whether in man or in cattle, the central mycelial zone, the true and typical fungus elements "always" stain with Gram's method, but the hyaline clubs "never" do; in fact they refuse any nuclear stain. In older specimens we find that the filament which disappears in the ray is often distinctly clubbed, and naturally stains with aniline gentian violet, but these club-like endings are not what we call "rays or clubs." The pleomorphism, as I also pointed out at the Pathological Society, was established by Israel, Wolff, Bostroem, and others some years ago; but this pleomorphism does not apply to the rays, for it is now acknowledged by all competent mycologists that the hyaline rays are of no morphological or biological importance, and are probably due to some degenerative changes. The extraordinary differences in the staining reactions of the human form from those of the bovine form are certainly new, and require confirmation. Yet another inaccuracy I must draw attention to. Mr. Hewlett speaks of "the apparent absence of the club-shaped bodies in Madura disease." This assertion is perhaps excusable, as in his "one" specimen they seem to have been indistinct. As a matter of fact, as I pointed out at the same meeting, in most cases the clubs are so very well marked and so gigantic, compared with the forms met with in actinomyces more familiar to us, that it led me to believe that the Indian fungus is not identical with the European form—perhaps a variety of the same species. Drs. Lewis and Cunningham also generally observed tall, fringe-like processes.

In a future publication, to which I have already alluded, I shall enter more fully into the morphology and biology of the Indian fungus and its relation to our forms of actinomyces. I felt it incumbent on me to correct a few statements which "report" laid at my door, and also with a concluding word to correct yet another statement which I am reported to have made—viz., "that Madura disease is undoubtedly due to a fungus, and that this fungus is identical in its staining reactions with actinomyces." As in my forthcoming paper I am giving Dr. Carter all the credit he merits for his original suggestion as to the identity of the Indian and European diseases, I hope it will not be thought that I am attempting to claim priority when I reply that at the meeting of the Pathological Society I said that the fungus found in the yellow form of mycetoma was not only "tinctorially" but also "morphologically and biologically" a *form of actinomyces*. At that time, however, I had no absolute proof as to the exact relation existing between the ochroid and the melanoid masses, and could not go further than suggest the actinomycotic nature of the black variety, which now, as I hope to show, thanks to the kindness of Mr. Edgar Willett, who supplied me with the necessary specimens, is likewise established Other inaccuracies of Mr. Hewlett with regard to literary references and the morphology of the fungus I shall pass over, as they are outside the purpose of this letter. I apologise for having occupied so much space, but I found it necessary to defend myself against a criticism based on a mere "report," which might have been obviated if Mr. Hewlett had thought fit to learn my actual statements at their proper source.

I remain, Sirs, yours truly,
A. A. Kanthack, M.B., M.R.C.P.,
John Lucas Walker Student in Pathology,
Cambridge, July, 1892. **Cambridge University.**

PUBLIC HEALTH AND THE NEW PARLIAMENT.

To the Editors of The Lancet.

Sirs,—It has long been admitted that a Minister of Public Health would be a desirable addition to the Cabinet. Would not therefore the appointment as President of the Local Government Board of some suitable medical M.P. to an extent accomplish this. Such an appointment might eventually lead up to the creation of a special Minister of public health The time being opportune I have ventured to draw attention to the question, trusting the opinion of the profession will be forthcoming on the matter.

I am, Sirs, yours faithfully,
July 12th, 1892. C. E. Abbott, L.R.C.P.I., M.R.C.S.

DANGERS IN RESCUING THE DROWNING BY THE POLE ("AXE") DRAG.

To the Editors of The Lancet.

Sirs,—It is alleged that in 1884 an unfortunate foreigner, who had tumbled into the water at Havre, whilst his rescue was being attempted by an intended life-saver armed with the clumsy, cumbrous pole-drag, or say rather "pole-axe-" drag (as still recommended by our Royal Humane Society), was fatally struck on the head by the well-meaning rescuer. The Royal Humane Society's practically non-portable pole-drag measures 19 ft. 10 in. in length. Its metal pole-head is about 20 inches across, weighing 3 lb. 10½ oz. This head terminates in three double sharp-pointed hooks or flukes. This pole-drag, with its long 18 ft. ash-pole, weighs about a further 7 lb., so, in all, the present pole-axe-drag of the Royal Humane Society weighs approximately about 11 lb. But in using it, as the chief weight is at the bottom, the leverage or pendulum swing practically brings out a still heavier weight. I am anxious to learn if any of your correspondents can kindly inform me of other fatal accidents alleged to have occurred in attempts to rescue the drowning by the unwise use of the pole-axe-drag of the Royal Humane Society. Lieutenant Brunel has invented a pocket life line having thirty yards of cord. Its grapnel and float only weigh 5 oz. He has also invented a coastguard life line with a grapnel weighing 4¾ oz., a long wooden float serving as bobbin or reel, weighing 2½ oz., and further 46½ ft. of stout cord weighing 5½ oz. or in all 12¾ oz., whilst the leather case and strap weigh 4¾ oz. Therefore the entire apparatus, including the case, weighs only about 17½ oz. It is to be hoped that the Brunel system of life-saving will be adopted and introduced into this country, where it is neither patented nor protected. Instead of the former dangerous pole-drags, upwards of 3000 Brunel life lines are now used in France saving over 250 lives a year. Invented in 1874, the Brunel portable life lines have already rescued upwards of 1300 lives in France and her colonies. The cost of the apparatus, though infinitely more efficient and portable, amounts in France to less than a third of the price charged for the apparatus at present recommended by the Royal Humane Society.

On June 13th, 1892, at the Swimmers' Life-saving Society, I exhibited, side by side, the life-saving appliances of the Royal Humane Society and those also on the Brunel system.

he latter were generally approved. In a subject of such tal importance as the rescue of the drowning, it is for e public. who are the patrons and subscribers of the Royal umane Society, themselves to decide which system is the ore efficient and economical.

I am, Sirs, yours faithfully,
J. LAWRENCE HAMILTON, M.R.C.S.,
Late Honorary President, Fishermen's Federation.
Brighton, July 11th, 1892.

HEALTH EXHIBITION IN NOTTINGHAM.

To the Editors of THE LANCET.

SIRS,—Our scheme for holding an exhibition of sanitary ppliances in connexion with the annual meeting of the ritish Medical Association in Nottingham, and under the oint Patronage of the association and the Nottingham corporation, seems likely to prove a success. Thirty-six important firms, including Messrs. Allen, Anidjah, Billington, Bostel, Chorlton, Cliff, F. Cooke, Danks, Duckett, Farmiloss, Foster and Cooper, Henry, Hughes and Lancaster, Jennings, Longford (bedding) Co., Merryweather, Parker and Hassall, Sanitas Co., Sollory and Son, Tylor and Sons, Watts and Whitfield have engaged spaces and paid their deposits. The stalls are 420 feet in length and have a uniform width of eight feet. As already announced the Nottingham corporation have lent the covered and wood-paved yards (measuring 100 feet square) at the rear of the Guildhall and are laying the necessary water mains. The patent jointed drain pipes of Messrs. Parker and Hassall will be laid under the stalls and connected with the nearest street sewer. This complete system of water supply and drainage will enable all working hydraulic apparatus to be shown in operation. The president of the British Medical Association, with the Mayor of Nottingham and Sir Walter Foster, will perform the opening ceremony at 11 A.M. on July 26th. Certificates of merit in three classes will be awarded to deserving manufacturers or inventors. Twelve representative gentlemen from London and the provinces have consented to act as judges of exhibits.

I am, Sirs, yours faithfully,
Nottingham, July 11th, 1892. PHILIP BOOBBYER, Hon. Sec.

THE FRENCH WORKMEN'S SANITARY CONGRESS.

(FROM OUR SPECIAL CORRESPONDENT.)

THE third sitting of the Congress was presided over by M. Acdinet, delegated by the Municipality of Châtellerault, with delegates of the Paris and the Angers Labour Exchanges as vice-presidents.

M. Prudent Dervillier, member of the Paris Municipal Council, reopened the discussion on the food of the working classes. He complained of the insufficiency of the French law with regard to the prevention of adulteration. The analysis of articles offered for sale as food must be made through inspectors appointed by the police; thus nothing was done except under the direction of the Prefect of Police. Sanitary reformers took no initiative in the matter. It was not necessary to insist on the evils that result from leaving everything to the initiative of the chief police official, who was not of necessity a competent hygienist. It was a subject for which the working classes should demand special legislation. There should be penalties sufficiently severe to act as a deterrent on those who sought to adulterate food. Then there should be a service of inspection that did not depend exclusively on the Prefecture. The local authorities should have a voice in the matter and consumers ought to possess the means of obtaining an analysis of a suspected article without having to pay an extravagant fee. On all these questions the example of the English Legislature was well worth studying. The English laws against adulteration were far from perfect, but they were infinitely superior to those existing in France. There were now forty-two public analysts for the metropolis of London, whereas in Paris there was only the one municipal laboratory. As the number of analyses made increased the proportion of articles found to be adulterated decreased. In 1872 the proportion of articles proved to be adulterated was equal to 26 per cent. of those that were examined and in 1880 it was only 17·47 per cent. The English law sanctioned the imposition of heavy fines and in some cases of imprisonment with hard labour.

If in England results which, though not perfect, served as an encouraging example had been attained, it would be a great mistake to imagine that this was in any way due to the initiative of the English Government. It was due, on the contrary, to the courageous, bold initiative of individual Englishmen. It was not the custom of the Possibilist party to praise individuals, and they were on principle strongly opposed to all forms of hero-worship. There were circumstances when it was useful to point out what one man could do when inspired by the love of the public good. It was impossible to deal with the question of the prevention of food adulteration in England without describing the initiator of this great reform, the late coroner for Middlesex, Mr. Wakley, M.P. Besides, no name could be more appropriately mentioned at such a Congress as the late Mr. Wakley was one of the early champions of the people's cause It was as far back as 1850 that Mr. Wakley began his campaign. Then adulteration was so much the practice, even among what were considered the most respectable tradesmen and manufacturers, that there was good reason to believe the death-rate was seriously affected. The late Mr. Wakley took upon himself alone to break down this dangerous system of fraud and robbery, though warned by all his friends that such an unequal struggle would entail his ruin. He established a chemical laboratory, sent two persons to buy samples, and, so that his good faith should not be doubted, divided these samples and left one-half in a sealed packet with the tradesman. He then published in his journal, THE LANCET, the result of the analysis. The tradesmen thus detected and denounced were thrown into a wild state of terror and indignation. But the public gave enthusiastic support. Finding that the law was of no service several tradesmen armed themselves with sticks and lay in waiting; but Mr. Wakley had the advantage of being an athlete, and in this respect also had the best of it. French workmen were too indolent and wanting in personal initiative; they were always afraid to complain and were for ever waiting for the Government to come and help them. For this reason the history of Mr. Wakley's endeavours was a useful example. Mr. Wakley had shown that, for instance, out of twenty samples of tea, twelve were false and mixed with poisonous substances. Even opium and other medicaments were adulterated. Of course coffee, pepper and numerous other articles offered a wide field for fraud. They now wanted to render justice to the memory of the man who made these facts matters of public notoriety, who had raised public opinion and had created such an agitation that the government of England was compelled to legislate on the matter. The son and grandson of the late Mr. Wakley were now continuing in these good traditions. It was most important that such independent organs as THE LANCET should exist. The speaker wanted to particularly call the attention of the Congress to the position of the proprietors of THE LANCET. They considered themselves in honour bound and pledged themselves to have no business or financial interest whatsoever in the matters that might be mentioned in the journal. Thus THE LANCET was absolutely independent and free to criticise all and every one. It was a great misfortune that no such independent organ existed in France. All the French papers had business interests to promote and could not follow suit and create a movement such as had arisen in England and which had resulted in the Food and Drugs Act and the Sanitary Act of 1875. Had such a thing been possible in France the lives of thousands and thousands of French workers would have been saved. Yet everyone present at the Congress might attempt, though of necessity on a smaller scale, to follow the example given by the late Mr. Wakley and boldly attack the adulterators. "Let us follow the example of this good English citizen who created the movement that rendered legislation possible and brought about the adoption of those English laws which, with all their imperfections, have nevertheless given some guarantee that the food sold is wholesome, and which have to a notable extent reduced the prevalence of adulteration. We shall then have better food and with better food wiser minds. We shall then be able to judge better and act with greater ability. The workers will more successfully study the causes of their poverty and be in a better position to solve the social problem."

This speech, of which I have given but a summary, was greeted with more than the usual applause. M. Fabré, a journeyman baker from Versailles, followed. He thought the Congress had not given enough attention to the question of the spoilt or inferior flour which was used for bread. At the military and other dépôts such deteriorated flour was sold at a very low price. What became of it? Measures should be taken to see that it was not used for human food and that it should only be given to cattle. With regard to the 10 per cent. of water over and above the normal quantity so often found in bread the speaker did not think this was added purposely. It was far more profitable to reduce the cost of labour. Journeymen bakers were made to load the oven so frequently that they had not the time to knead the dough properly. Then, as a further economy, the loaves were crowded so close together in the ovens that there was not space enough to bake them properly. To this was due the high percentage of water found. Men who worked fifteen and sixteen hours in a day could not be expected to make bread well, that is carefully and laboriously. The hours of labour should be limited and the output per man per hour very much reduced; then the bread would be well and wholesomely made. The delegate agreed that the muncipality ought to compete against private bakeries, but it would be a mistake to create one large central municipal bakery. The cost of delivering the bread might amount to 10 per cent. of the total cost of producing it, while that of labour would not be more than 6 to 7 per cent. It was much more practical to have a number of small local municipal bakeries and thus the expense of delivering the bread would be very materially decreased. For about £100,000 the municipality could start 120 different bakeries in various parts of Paris, where the journeymen bakers would not be overworked and where genuine, cheap bread could be sold.

M. Heppenheimer, municipal councillor, was anxious that an independent and purely scientific authority should be organised to check adulteration instead of the present police authorities.

M. Caumaud, municipal councillor, apologised for the small wine dealers. They were not the worst culprits, though they certainly did add water to their wine. It was the intermediary merchants who should be watched.

Dr. Paul Brousse, municipal councillor and reporter on this question, urged that the law protected the wholesale merchants while prosecuting the retail dealer. It was only when an article was offered for sale that proceedings could be taken, so it was quite safe to adulterate in a wholesale manufactory. At the wine docks of Bercy the cost would be too great, in consequence of the entrance dues, to adulterate wine. The intermediary firms were the real culprits. They advanced small sums to individuals so that the latter might open retail wine shops. The sum advanced was generally insufficient, the retailer had to borrow more, and in doing so had to accept adulterated wines. When the retailer was caught it was the intermediary merchant who paid the fines and continued to supply bad wines. The law should be able to trace the wine back to this intermediary and thus reach the real culprit.

The Congress now proceded to discuss the second question—namely, the feeding and rearing of workmen's children, or as it was put, the milk question—*la question de l'allaitement.* M. Caumaud reported and said he did not propose to deal with children above the age of two years. The high rate of infant mortality was due to our present bad social organisation which tore children away from their mother's breast. The number of mothers who abandoned the hope of suckling their own children was daily increasing. The child which was the product of a difficult gestation due to excessive toil, prolonged till the eve of its birth, came into the world weak and unhealthy. The mother, anxious to return to the factory or the workshop, sent the infant off to some distant provincial baby farm, where it was almost certain to die. A great step had been accomplished by the humanitarian law of May 23rd, 1874. This law, instituting a system of inspection over all who had charge of children, was more rigorously applied in the neighbourhood of Paris than elsewhere and statistics showed with what beneficent results. The mortality of infants under one year old was 18 44 per cent. in the period from 1868-1872. It fell to 16 72 per cent. for the years 1878-1882, and does not now exceed 15 per cent. This was a clear demonstration of the advantage of legislative interference. M. Caumaud insisted on the duty of mothers to suckle their own children. In the upper classes mothers sought to avoid this responsibility. They were too fashionable to suckle their own children and gave them over to the care of hired wet nurses. This was against nature's laws and should not be allowed. As a result it often happened that either the nurse contaminated the child or the child contaminated the nurse. Many peasant women had caught syphilis through nursing Parisian children. The results of artificial feeding were even more disastrous. In Paris of the assisted infants of the poor the proportion of deaths in 510 of children fed from the breast was 4·90 per cent. and of 669 fed from the bottle 9·5 per cent. In the suburbs of Paris out of 1634 infants fed from the breast 6·36 per cent. died, and out of 1389 fed from the bottle 12·45 per cent. died. M. Caumaud urged that long tube bottles should not be allowed. He proposed that as £600,000 had been spent to build the prison of Nanterre for criminals and vagabonds, at least £400,000 might be spent to create near Paris a vast establishment which would serve as a maternity, where mothers could live with their infants for at least two months after the birth of the child, instead of being driven away in five days, as is done at the hospitals.

Madame Bertier did not like the idea of such vast agglomerations. Nature demands that children should remain with their mothers, and if mothers could not afford to keep their children with them, then sufficient out-door relief should be given to avoid the necessity of separating mother and child.

M. Vallet protested that this was true enough in principle but in practice many mothers were much too poor and too ignorant to rear their own children. The recommendations given with regard to the precautions for the milk would not be understood; and till such time as the lower labouring classes were better educated and better paid institutions such as had been suggested by M. Caumaud would render great service. Naturally it would be better to keep mother and child together, on condition that the mother did not live in some overcrowded, filthy and insalubrious garret.

The Congress then adjourned.

Paris, July 11th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Infirmary and Owens College.

FOR a long time the question has been agitated whether the Royal Infirmary should accept a site on the Stanley Grove estate, which has been given to the Owens College by the trustees of the late Sir Joseph Whitworth, and should thereon erect a new infirmary. It has been urged that the present building is insufficient and antiquated, and that the site offered by the Owens College would be more suitable, being quieter in its surroundings and about a mile and a half from the centre of the town, for building a new hospital, and that it would be rather more convenient for students inasmuch as it is nearer to the Owens College. On the other hand, plans have been prepared for the enlargement of the Royal Infirmary or the erection on the same site of a new hospital with greater accommodation. These proposals will shortly be laid before a meeting of the trustees of the infirmary. Meanwhile the board of management have refused the offer of the Owens College for a building site on their property. Any scheme for increasing the bulk of buildings on the present site, which is in the centre of the city, will be strongly opposed by many people, who consider that the ground now surrounding the buildings should be preserved as an open space for the general benefit of the town.

The late Professor Schorlemmer

Professor Schorlemmer, F.R.S., who held the chair of Organic Chemistry in the Owens College, died on June 27th. The deceased gentleman, who will be long remembered by many old medical students, became attached to the College in 1861 as assistant to Professor Roscoe, and in 1874 was appointed Professor of Organic Chemistry. He wrote a manual on the chemistry of the carbon compounds and, together with Professor Roscoe, an extensive treatise on chemistry.

Manchester, July 6th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Health of Newcastle City.

DR. H. E. ARMSTRONG (our medical officer of health) has just issued his annual report on the sanitary condition of this city, with tabular reports of the sickness and mortality of the ast year. The returns show reduction in the general rates f births and deaths per 1000 population of all ages, and the ormer have fallen from 40·5 in 1890 to 35·7 in 1891. The atter have declined from 26·2 to 23·6, notwithstanding the ncreased mortality from the last six weeks of the year, which ttained the average of 35·8 per 1000. The rise is all the more triking from the fact that the average rate for the preceding ix weeks to Nov. 21st was only 21·9 per 1000. The principal actors of this abnormal state of things, Dr. Armstrong says, vere undoubtedly diseases of the respiratory organs with or vithout influenza. By far the most fatal infections have een measles and whooping-cough. These together caused 307 of a total of 478 deaths from zymotic diseases and liarrhœa. Small-pox has been entirely absent, and no death rom typhus fever has been recorded during the year. Dr. Armstrong shows very forcibly that measles (of which the sanitary lepartment has no official knowledge except from the registrar of deaths, when it is too late to benefit by the information) causes four times as many deaths as scarlet fever. Dr. Armstrong, in his painstaking report, shows how the various sanitary departments are working for the good of the city and instances the work done by the inspectors of nuisances of the common lodging-houses and of the active proceedings of the inspector under the Adulteration Acts.

Sunderland: the New Eye Infirmary.

The foundation stone of the new building for the Sunderland and North Durham Eye Infirmary has been laid by Mrs. Backhouse. The building is to be two storeys high and provides accommodation for sixteen patients. On the ground floor is a waiting-room to hold 200 persons. This is situated behind the Board-room, from which it is separated by a sliding wood partition which enables the two rooms to be turned into one for the purpose of concerts &c. The general form of the plan is an H. which gives the best possible light and ventilation with the greatest economy in construction. The architect is Mr. J. Wardle Donald of South Shields and the cost will be £4590.

Carlisle: Curious Medico-legal Case.

A case was tried at the late Carlisle Assizes before Mr. Justice Denman which possesses many points of medico-legal interest. It was sought by an action to set aside the will of a Mrs. Wilcox made in 1884. She died in 1885 at the age of seventy-five. It was shown that at one time she was insane and imagined she was related to the Countess of Derwentwater and Lord Bute and conveyed the whole of her property to Dr. Goss, Bishop of Liverpool; but she still collected her rents. Dr. Goss had the property reconveyed back to Mrs. Wilcox again. At another time she conveyed all her property to the Jesuits and in the same year made her will. In short, she was frequently settling and unsettling her property. It was admitted that she was an inmate for a time in 1864–5 of the Southern Counties Asylum at Dumfries, her mind becoming unhinged after the severe illness and death of her husband. On the other hand, it was shown by solicitors and others that she was generally a shrewd and even very intelligent lady, who knew very well what she was about. The learned judge in summing up said a person might be insane to a certain extent and yet have a mind sufficiently sound for the purpose of disposing of property. The fact that a person had once been in a lunatic asylum must not of itself be taken as conclusive evidence that the person was incapable of making a will and they must judge of a person's sanity by collateral points, by documents, and by other circumstances. The jury, after a consideration of twenty minutes, found for the validity of the will.

A Long Service.

At the last meeting of the Weardale guardians Mr. Bourne, surgeon, wrote tendering his resignation as medical officer on account of physical infirmities. He said that he had served forty-four years and asked to be recommended for the usual pension. His resignation was accepted with regret by the guardians and the question was adjourned for the next meeting, with the object no doubt of having a full one and a stronger force in the recommendation to the Local Government Board.

At West Hartlepool on Sunday there was a brilliant afternoon to favour the Sunday Hospital demonstration, and the attendance and procession of the Friendly Societies are said to have been the largest on record; it is hoped that the collection will be in proportion. Addresses were given by the Mayor (who presided) and other gentlemen in favour of the fund.

Newcastle-on-Tyne, July 12th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Edinburgh Medico-Chirurgical Society.

THE last meeting of the session of this Society was held last week, Dr. Joseph Bell, the president, being in the chair. Dr. James Carmichael showed a Brain with Abscess of the Cerebellum secondary to internal ear disease, and Dr. James showed a Sphygmometer. There were four papers before the meeting for discussion, the first dealing with Electro-diagnosis by means of the Urine, by Dr. Dawson Turner, who gave an outline of a large number of observations he had made on the subject, the urines being from different classes of cases, and the general conclusion being that the degree of resistance depended mainly on the salts present. [We print a *résumé* of these observations in another column.—ED. L.] The next paper was by Dr. G. A. Gibson, on the Antiseptic Treatment of Pernicious Anæmia, and was a further contribution to the discussion on Pernicious Anæmia which had taken place at the preceding meeting. The communication was based upon a well-marked case of the disease which had resisted treatment by arsenic and in which β naphthol was given, following a suggestion of Dr. W. Hunter. During the administration of the drug in doses of two grains thrice daily the blood improved in corpuscular richness, and two or three months after its commencement stood at 2,320,000 per cubic millimetre and the general condition had correspondingly improved. For purposes of comparison it was also given to an ordinary case of anæmia in a young woman, and in this case also there was a gradual improvement in the corpuscular richness of the blood. The paper gave rise to considerable discussion, which was taken part in by members of the Society who had not been present at the previous discussion, but no further points of special interest were brought out. The next communication was by Dr. J. A. Gibson and Dr. Lockhart Gillespie, entitled "Lessons from the Development of the Heart," and consisted of a lantern demonstration of photographs of transverse sections of the heart showing the thickness of the walls of the ventricles at different periods of fœtal life at different ages after birth, and in some diseased conditions; but the discussion on the practical bearings of these was deferred. The last paper, Notes on Indian Enteric Fever, by Surgeon-Captain C. H. Bedford, Bengal Medical Service, was taken as read, and ordered to be published in the Transactions of the Society.

July 12th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

The late William Colles, M.D., F.R.C.S.I.

AT a meeting last week of the governors of the Rotunda Lying-in Hospital the following resolution was adopted unanimously: "That the board desire to record their regret at the death of the late William Colles, who for many years discharged the duties of consulting surgeon to the Rotunda Hospital." A copy of this resolution has been forwarded to Mrs. Colles.

Sir Patrick Dun's Hospital.

A garden *fête*, under the patronage of the Lord Lieutenant and the Countess of Zetland, will be held this day and to-morrow in the grounds of Gortmore, Dundrum, in aid of this excellent institution. The Blue Hungarian Band and two military bands will add to the attractions of the *fête*.

Royal College of Surgeons.

On Friday, the 8th inst., a portrait and bust of the late Robert McDonnell, M.D., Fellow and ex-President of the College, was unveiled by his Excellency the Lord-Lieutenant. Sir John Banks, K.C.B., said on behalf of the subscribers that he begged to present the portrait and bust to the College. The object was that the esteem in which Dr. McDonnell's personal worth and professional labours were held should be perpetuated. He received his education in their ancient University and followed his father in choosing the profession of medicine. He presided over that College and also over the Royal Academy of Medicine, and his name and fame went beyond this country, for he received the much-coveted distinction of a Fellowship of the Royal Society. Dr. McDonnell rose to the very highest rank in the profession, and it was expected that having regard to his position, his services and all the good that he did to the State in peace and war, and as a member of several Royal Commissions, that he would receive some State recognition. This was the desire of the public and of the profession, and the Viceroy was of the same opinion. In conclusion, he had on behalf of the subscribers to give the portrait and bust to the College. The presence of his Excellency the Lord-Lieutenant added dignity to their proceedings and showed his kindly feeling and sympathy with their profession. The President, on behalf of the College, having thanked the subscribers, his Excellency made a few appropriate remarks, in the course of which he said that Dr. McDonnell was not only a member of every scientific institutions in Dublin, but was one who gave up a position in Steevens' Hospital and who of his own accord volunteered to go into the dangers of the trenches in front of Sebastopol, where he did signal and extraordinarily good services to his country. He trusted that the bust and portrait, both of which would be admired as works of art and appreciated because of the gentleman to whom they bore a resemblance, would keep his memory alive in many generations of Irishmen.

Graduates' Memorial, Trinity College, Dublin.

A meeting in reference to the proposed graduates' memorial took place during the tercentenary week and was presided over by Lord Rosse. Up to the day of meeting a sum of £6500 had been received or promised, but since then I learn that the fund now available, the major portion of which has been invested in Government stocks, amounts to a much larger sum, and it is confidently expected that £10,000 will be realised before many months have passed. The Board of Trinity College have promised a site within the College, the site to be determined by the amount of contributions received. The proposed building is intended when completed to accommodate the various societies which meet within the walls of the university. The following resolution was adopted: "That the graduates of the University of Dublin desire to express their warm thanks to the Board of Trinity College for the assent accorded by them to the establishment of a Dublin University Union within the precincts of Trinity College as the graduates' memorial of the tercentenary of the College and the University.

Ulster Medical Society.

At the annual meeting held at Belfast on July 8th, the report of the Council was submitted, from which I learn that the Society is in a very flourishing condition, there being a larger number of members than at any previous period of its history. The following office-bearers were elected for the coming session:—President: Dr. Whitaker. Vice-Presidents: Dr. John W. Byers and Dr. Barnett. Treasurer: Dr. Charles Kevin. Secretaries: Dr. McCaw and Dr. Calwell. Librarian: Dr. Cecil Shaw. Pathological Secretaries: Dr. John Campbell and Dr. McQuitty. Members of Council: Dr. J. A. Lindsay, Professor Sinclair, Dr. Ferguson, Dr. Dempsey, Dr. E. C. Bigger and Dr. W. M. Killen.

North of Ireland Branch of the British Medical Association.

The annual meeting of this Society was held in Lisburn on Thursday, July 7th. Mr. St. George, surgeon to the County Antrim Infirmary, president, occupied the chair. After several interesting medical communications had been brought before the meeting Dr. J. Walton Browne (Belfast) was elected president for the ensuing year. After the conclusion of the meeting Mr. St. George entertained fifty members of the North of Ireland branch at luncheon in his house at Lisburn.

Mr. J. E. Kenny coroner for Dublin, has been elected M.P. for the College Green Division of Dublin by a considerable majority.

The session for the present summer has now ended both at the hospitals and at Queen's College, Belfast.

July 12th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Epidemic of Cholera in Paris and its Environs.

WHEN last week I wrote about the outbreak concerning which so much anxiety is felt in this city, I gave it the name of cholerine. I regret that further inquiries compel me to modify its nomenclature and to designate it "cholera morbus." Such is undoubtedly, I believe, the real nature of the epidemic, and no amount of reticence on the part of the authorities can alter the significance of the facts. The epidemic has manifested itself at two principal centres, but situated "down-stream" and located along the great curve described by the Seine around the peninsula of Gennevilliers. The first centre, comprising Courbevoie, Suresnes, Asnières, Colombes and Argenteuil, is, with the exception of the last, situated within the loop, while the second-mentioned village centre is on the right bank, and includes Aubervilliers and St. Denis. It cannot be denied that, however sluggish the disease may be in its rate of extension, the mortality is alarming amongst those attacked, a fatal result often occurring in a few hours after invasion; and although the capital itself has on the whole escaped, a few cases occurring amongst Parisians have for the last few days been registered. Thus, on Saturday last, three cases were reported—one in the eighteenth and two in the nineteenth arrondissements. On Sunday there were eight cases in different arrondissements. Of these eight cases, however, there is reason to believe that five at least were cases of fright, the symptoms being trifling. On Monday two deaths were registered, both victims being infants. On that day four cases were admitted into the Lariboisière Hospital. Several fatal cases are reported from Aubervilliers, St. Denis, Courbevoie, Levallois, Asnières, St. Ouen and at Ivry, where the disease has made its appearance in the large Hospice des Vieillards. Its appearance at Ivry and at Noisy-le-Sec, both situated up-stream, cannot well be attributed to the drinking of contaminated Seine water. Is the disease really Asiatic cholera? *In an able article published in the current number* of *La Médecine Moderne* Dr. Talamon, the talented editor, replies unhesitatingly in the affirmative. He regards it as proved that the comma bacillus has remained latent until lately in the soil of the Plaine St. Denis since the year 1884, the date of the last epidemic. He recalls the fact that the cholera of 1884 imported to Toulon made its first appearance in the neighbourhood of Paris at St. Denis and Aubervilliers. He observes great similarity between the present epidemic and the outbreak of cholera in 1890 at Puebla de Rugat. In both instances there was no importation from abroad, both occurred at the same time of the year and both were characterised by slow extension and endemicity. The survival of the cholera bacillus in the soil since 1884 is explained by the researches of Hueppe, Wood and Lustig. These *savants* tell us that the cholera bacillus is both aerobic and anaerobic, according to its habitat. In the intestinal canal it is anaerobic. Its virulence is here very intense; but it is, on the other hand, more vulnerable to the destroying action of chemical agents. Hence the importance of the prompt disinfection of choleraic stools. In the superficial layers of the soil the bacillus is aerobic and its vitality becomes greatly increased. Its power of resistance is further increased by the formation of jointed spores—the "zooglées arthrospores" of Hueppe, which, forming a kind of thick viscid network, offer protection against the influence of putrefaction and desiccation. Combined dryness and heat favour its growth, and these atmospheric conditions have been present for the last two months. It further appears that at Aubervilliers extensive road repairing has been in process for a considerable time, thus setting free colonies of microbes, which, finding their way into the drinking water, spread the disease. The comparative benignity of the outbreak is explained by the observation of Hauser, to the effect that if the bacillus lying latent in the soil resumes its morbid properties in contact with the air, it has nevertheless lost the power of reproduction so characteristic of the microbe of direct Asiatic origin. What measures are the authorities *taking to stem the choleraic tide?* A first step has been taken by the Prefect of Police in the appointment of a sanitary inspection committee, which comprises amongst its members such well-known names as Colin, Dujardin-Beaumetz, Proust, Levraud (President of the Sanitary Commission of the Municipal Council) and Brousse. To these names have been added those of Drs. Thoinot and Dubœuf, both accomplished bacteriologists, together with Drs. Deschamps and Touvenin. These latter gentlemen, each accompanied by a member of the committee, have already begun their rounds in the infected suburbs. The Assistance Publique has determined to utilise the temporary hospital situated in the Bastion No. 36 for cholera cases, such a step being taken in order to prevent as far as possible the introduction of the infection into the interior of Paris. A sum of 42,500 fr. has been voted by the Conseil Général of the Seine Department in aid of those communes that are willing to make an outlay in the purchase of filters and sterilising apparatus. I may supplement the above information by stating that Dr. Chantemesse, one of M. Pasteur's principal assistants, is decidedly of opinion that we have to deal with true Asiatic cholera. This I have from a private source. So far as I am aware, no cases have as yet been reported from any of the barracks.

The Composition of Dr. Brown-Séquard's Gland Juice.

At the last meeting of the Académie des Sciences M. Gautier announced that Professor de Poehl of St. Petersburg had succeeded in extracting from the pancreas, thyroid body, ovaries and testes a leucomaine called spermine, having the composition represented by the formula $C_5H_{14}N_2$, which he has isolated in the form of crystallised phosphate. A few centigrammes of this base, introduced subcutaneously in the form of hydrochlorate, is said to produce the tonic and exciting effects of Dr. Brown-Séquard's injections, and the discoverer believes that it is to spermine alone that the remarkable results obtained by these injections are due. It appears that spermine possesses great oxidising power, it being capable of rapidly converting, in the presence of gold or platinum chloride, magnesium into magnesia. Under its influence also the nitrogenous extractives of urine are converted into urea. It is pointed out that in Germany spermine is confounded with piperazine, the latter substance being sold for the former.

Paris, July 13th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Death of Professor Hermann Nasse.

PROFESSOR HERMANN NASSE, the oldest member of the medical faculty at Marburg, died the other day. Both his father and his grandfather were medical men of more than average reputation. He was born at Bielsfeld in 1803, studied at the Rhenish Frederick William's University and in Paris, assisted Philipp von Walther in the surgical clinic at Bonn and established himself as a private lecturer there in 1834. In 1837 he was called to the chair of physiology, pathology and veterinary science at Marburg, but afterwards confined himself to physiology. His chief writings are: "Inflammation as illustrated by its Anatomical Results," "Contributions to the Physiology and Pathology of the Blood" (written in conjunction with his father), "The Influence of Nutrition on the Blood," "Lymph and its Formation," and the articles on Blood, Chyle, and Lymph in Rudolf Wagner's "Handwörterbuch der Physiologie" ("Hand Lexicon of Physiology").

Miscellaneous Items.

The appointment of Professor Fischer of Würzburg to succeed A. W. von Hofmann as professor of chemistry and director of the first chemical institute in Berlin is now an accomplished fact. He will enter on his new duties next session. He will be succeeded at Würzburg by Professor Victor Meyer of Heidelberg.

Professor Ludwig Andreas Buchner, who occupies the chair of pharmacology at Munich, will retire at the end of this session.

Dr. Zander, private lecturer on anatomy, and Dr. Nauwerck, private lecturer on pathological anatomy, both of Königsberg, have been appointed professors.

The *Allgemeine Medicinische Central-Zeitung* (General Medical Central Journal), the oldest of the German medical journals, passed into the possession of the publisher, O. Coblentz, on the 1st inst. Dr. H. Lohnstein remains editor.

Berlin, July 12th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

The Medical School.

LAST February some new regulations came into force for the School of Medicine, chiefly on the initiative of the new director and his energetic English colleague. The students will now undergo a six years' course before their final examination for the diploma and the last two years will be devoted to hospital work almost entirely. Before entrance to the school they must prove that they are at least sixteen years of age, of good health, and that they have passed successfully the secondary examination of the Government schools. This rule will get rid of all those of miserable physique and of untrained mental growth. Students will pay some £84 for the whole of their school and examination fees, but special reduction may be made in a few cases to those who are considerably richer in intellect than in pocket. This is an advance upon the late system, under which the Government paid all the boys for the privilege of teaching them. But it must be remembered that elementary education was only commenced in Egypt fifty years ago, and that at that time Mehemet Ali Pacha had to take children from their parents by force to fill his new schools. During the first two years anatomy, among other subjects, will be taught in a much more thorough and practical way than before, and during the first four years there will be gradually diminishing lessons in the English language. Pathology, which until lately has been entirely neglected, will be taught in the third year, and students will also for two years be obliged to attend all the necropsies of the hospital. The present appointment as pathologist and head of the bacteriological department of Dr. Kaufmann, ex-assistant to Professor Weigert, has already borne good fruit, and it is to be hoped that his labours may gradually furnish the now empty shelves of the pathological museum. The third-year students attend the out-patients' department, in the fourth year they visit the wards for an hour a day, and they hold hospital appointments during the fifth and sixth years. The lecturers are bound to formulate their course upon certain standard books chosen by a committee of lecturers and examiners. Those chosen for next year are mostly in Arabic or French, with a few English text-books, such as Fagge, Nettleship, Klein, &c. Written examinations are to be introduced for the first time next October. The annual examinations have just been held orally, with a new board composed of eight members, each of whom has the lecturer of the subject associated with him. These eight members are unconnected with the school, though some of them are on the hospital staff, and for the first time they are to receive a small fee. They are appointed for three years and consist of a native, a French, and four English doctors, together with a French and a German chemist. At the recent examination 106 students presented themselves, of whom 53 were referred till October, the failures being mostly in anatomy, midwifery, pathology and hygiene. This is the first time that the examinations have been conducted on any serious principle. The School of Pharmacy has dwindled down to two students, of whom one failed to satisfy the examiners. The medical school for girls was represented by fifteen, of whom ten were successful. The girls' school has recently been placed under the control of an English nurse holding an obstetric diploma, and the girls when not attending lectures are lodged, fed and clothed in the hospital, where they act as under nurses in the female wards. None of these reforms would have been possible without the coöperation of the Minister for Education—an Armenian Pacha of rare intellectual gifts.

The "Bosphore Egyptien."

It will be remembered that on May 4th a French newspaper here went out of its way to libel Mr. Milton with reference to various surgical operations. The terms of the libel caused the greatest sympathy with Mr. Milton to be manifested by all those not belonging to the French colony, and great joy was evinced yesterday when the verdict of the judges was announced in the civil action brought against the journal. The case was tried in the Court of Mixed Tribunals here, a cumbersome method necessary in a country where every individual is protected by the laws of his own nation. The case came before five judges, two natives, a Russian and an American, with a German president. The *Bosphore* made no attempt to prove its charges and relied for its sole defence upon further abuse of Mr. Milton and his English and German colleagues. It tried, of course unsuccessfully, to prove that Mr. Milton, because he possesses the L.S.A. diploma together with that of M.R.C.S. Eng., was nothing but a simple druggist. The advocate for the defence, who is also one of the owners of the newspaper, made the wildest and most hysterical statements, and, when taxed by the plaintiff's counsel with direct falsehood, he complained plaintively that he had not been able to find any medical witnesses to support the libellous charges. The judges ruled that the libel was "untrue, defamatory and injurious" and condemned the *Bosphore* to pay all costs and £1025 damages, with interest at 7 per cent.

until paid. The judgment was published yesterday in the *Bosphore* and must also appear, by order of the Court, in an English and Arabic local paper. The condemned parties will of course appeal and the case will be reheard at Alexandria in the autumn. The verdict leaked out a few days before, delivered probably through the native judges, and it is an open secret that if it had not been for the German and American members of the Bench the sum awarded would have been absurdly small. The *Bosphore* in its issue last night devotes two furious columns to the iniquities of the Court and threatens Mr. Milton with future disclosures. So long as there is no comic journal published in Egypt we owe a debt of some gratitude to the *Bosphore Egyptien*.

Cairo, July 1st.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AT a quarterly meeting of the Council held on the 14th inst., the President reported that at a meeting of the Fellows of the College, held on the 7th inst., for the election of four members of the Council in the vacancies occasioned by the retirement in rotation of Mr. Thomas Smith, Mr. Arthur Edward Durham and Mr. George Lawson, of whom Mr. George Lawson did not offer himself as a candidate for re-election, and by the death of Mr. Matthew Berkeley Hill, Mr. Thomas Smith and Mr. Arthur Edward Durham had been re-elected and Mr. John Tweedy and Mr. Frederick Howard Marsh elected members of the Council. These gentlemen made a declaration in the terms of the oath prescribed by the Charter of 1800 and took their seats as members of the Council.

The minutes of the Museum Committee of the 4th inst. were read as the report from that committee and it was agreed that Mr. Burgess, the museum artist, should be employed for a further period of six months.

The Council decided to supply six additional tables for the display of the dissections of human anatomy.

As recommended by the Committee of Management, the West Riding Lunatic Asylum at Wakefield is to be recognised for the purposes of study required by Section 1, Clause 2, Paragraph 13 of the Regulations of the Combined Examining Board in England.

In accordance with the recommendation of the same Committee, it was decided to provide a sinking fund for the Examination Hall and Laboratories, and the subject was referred back to the Committee for elaboration of a scheme.

The reports of the Laboratories and the Nomination Committees were approved, read and adopted.

The following professors and lecturers for the coming year were appointed: Mr. J. Hutchinson, jun., and Mr. B. Pitts, as Professors of Surgery and Pathology; Mr. B. T. Lowne, Mr. C. B. Plowright and Mr. C. Stewart, as Professors of Comparative Anatomy and Physiology; Mr. J. R. Bradford, as lecturer on Anatomy and Physiology: Mr. J. H. Targett was appointed as the Erasmus Wilson Lecturer.

The President reported the holding of the meeting of Fellows after the election of members of the Council on Thursday, the 7th inst.

A letter was read dated the 4th inst. from Mr. E. Octavius Croft, Secretary to the Faculty of the hospital, enclosing an application from the honorary medical staff of the Hospital for Women and Children at Leeds for the recognition of that institution as giving such clinical instruction in gynæcology as is required by the regulations for the examinations for the Membership of the College. The letter was referred to the Committee of Management for their consideration and report.

Mr. J. H. Targett was elected Pathological Curator for another year. Mr. J. B. Bailey was re-elected Librarian.

Mr. Thomas Bryant was re-elected President of the College for the third time. Messrs. C. Heath and A. E. Durham were elected Vice-Presidents.

The members of the various committees were appointed.

It was agreed, on the motion of Mr. Rivington, that a committee should be appointed to consider and report to the Council on the standing rules, and to submit a revised copy to the Council.

The thanks of the Council were given to Mr. F. G. Hallett for his catalogue of portraits and busts in the Royal College of Surgeons.

The next meeting of the Council will be held on August 1st.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the Second Examination of the Board in the subjects indicated at a meeting of the Examiners on the 4th inst.:—

Anatomy and Physiology.—Thomas S. Hartley, William F. Rawson, Eric G. Storrs and Percy V. Fry, students of Yorkshire College, Leeds; Walter R. Walton, of University College, Liverpool; Thos. F. Woolley, Wilfred Allport, William S. Willmore, Geo. H. E. Bekenn, Eustace B. Bostock, George E. Atkins and Henry W. Pepper, of Queen's College, Birmingham; Subhan Ali, of Lahore Medical School; Edward W. Battle, of Owens College, Manchester; F. H. Humphris, of Edinburgh University and Mr. Cooke's School of Anatomy and Physiology; Francis F. Noonan, of Melbourne and Edinburgh Universities; Alfred Lockhart and Isaac Wood, of Queen's University, Kingston, Canada.

Anatomy only.—Charles A. Phillips, Edward H. Phillips and Geo. Y. Myrtle, of Yorkshire College, Leeds; Henry W. Lloyd, of University College, Liverpool; Ernest W. Ormorod, of Bristol Medical School; Herbert A. L. Banham, of Sheffield Medical School.

Physiology only.—Geo. R. Sparrow, of University College, Liverpool.

Twelve candidates were referred in both subjects, one in Anatomy only, and six in Physiology only.

Passed on the 5th inst.:—

Anatomy and Physiology.—Philip Macaulay, of Yorkshire College, Leeds; R. Hewlett-Hayes, of Dublin and Guy's Hospital; Leonard N. Pentreath, of St. Thomas's Hospital; David L. Clay and John Hepworth, of Owens College, Manchester; Alfred K. White, of Dublin; William H. Brown, David Horwich, William G. Thomas and William H. G. Wilkes, of Queen's College, Birmingham; Thomas J. Chidley, of Dublin and Mr. Cooke's School of Anatomy and Physiology.

Anatomy only.—Wilbye Cooper, John L. Elliott and Arthur T. Lachmore, of Yorkshire College, Leeds; John T. Barritt and Robert Marshall, of Owens College, Manchester; Frederick A. W. Quay, of Trinity College, Toronto; Bernard P. O'Neill, of Guy's Hospital; Howard P. Kennard, of St. Thomas's Hospital; J. A. K. Griffith, of University College; Edward A. McAnnally, of St. George's Hospital and Mr. Cooke's School of Anatomy and Physiology; Augustus C. Greenwood, of Middlesex Hospital.

Physiology only.—William Archer and Walter G. Parkinson, of Yorkshire College. Leeds; Thomas W. W. Bovey, of Bristol Medical School; Frederick A. L'E. Burges and John W. Farndale, of Queen's College, Birmingham; Thomas H. Agnew, of University College, Liverpool; Henry J. Heginbotham, James Worthington, and Samuel Crossley, of Owens College, Manchester.

Nine candidates were referred in both subjects, four in Anatomy only and ten in Physiology only.

Passed on the 6th inst.:—

Anatomy and Physiology.—Julian Hora, Tom H. B. Yorath and Harry D. Packer, of Guy's Hospital; John C. Padwick, George Miller and Sydney C. Hounsfield, of St. Bartholomew's Hospital; Lewis W. Burrow, of St. Thomas's Hospital; Frederick A. J. R. Brooke, of London Hospital.

Anatomy only.—Joseph L. F. de Gannes and Cyrus W. Smith, of University College; Preston R. Wallis, of University College and Mr. Cooke's School of Anatomy and Physiology; Christopher A. A. Coulthard, of St. George's Hospital; Charles F. Stileman, of St. George's Hospital and Mr. Cooke's School of Anatomy and Physiology; Thomas H. Parker and Henry P. Cox, of King's College; Ernest H. Tipper, of Guy's Hospital; Percy L. Blaber, of St. Thomas's Hospital: Alan P. Birch, of Middlesex Hospital and Mr. Cooke's School of Anatomy and Physiology.

Physiology only.—Ernest E. Crowther, of Yorkshire College, Leeds; George V. Miller and Frederick P. Duncan, of University College; Walter K. Hopkins, of St. Bartholomew's Hospital; Henry A. Burridge, of King's College; Charles C. Jenkins, of Guy's Hospital.

Fifteen candidates were referred in both subjects, three in Anatomy only and ten in Physiology only.

Passed on the 7th inst.:—

Anatomy and Physiology.—Alfred Arner, of St. Bartholomew's and Guy's Hospitals; Cecil F. Gordon, of St. Bartholomew's Hospital; Francis J. H. Cann, of Guy's Hospital; Philip G. Mould, of Owens College, Manchester, and St. Mary's Hospital; Geo. B. C. Blount, of St. Thomas's Hospital; Thomas Lambe, of University College; Arthur G. L. Smith, of Middlesex Hospital.

Anatomy only.—John W. Ensor and Morton E. Tresidder, of Guy's Hospital; George W. Brown and William Herbert, of St. Thomas's Hospital; Alexander S. McSorley, of King's College; Thomas S. Pigg and Arthur R. H. Skey, of St. Bartholomew's Hospital; Francis A. Phillips, of St. George's Hospital; Morgan D. Blake, of St. George's Hospital and Mr. Cooke's School of Anatomy and Physiology; Randolph L. Grosvenor, of Cambridge University and St. Mary's Hospital; William G. Noble, of London Hospital.

Physiology only.—John R. Benson, of King's College; J. S. Hosford, Ernest G. L. Goffe and John W. Stokes, of University College; Walter A. Edward J. C. Kennedy, of Victoria University, Ontario; Walter A.

Sharpin, of St. George's Hospital; William A. Carden, of Guy's Hospital; David L. Jones and G. G. Oakeley, of St. Bartholomew's Hospital; A. Stanley-Matthews, of St. Thomas's Hospital; Alfred Carruthers, of St. Thomas's Hospital and Mr. Cooke's School of Anatomy and Physiology.

Nine candidates were referred in both subjects, seven in Anatomy *only and nine in Physiology only.*

assed on the 8th inst.:—

Anatomy and Physiology.—Frank Lond, of Guy's Hospital; Arnold E. Lovitt, Wm. G. Mortimer and John H. Power, of London Hospital; Richard T. Cæsar, of London Hospital and Mr. Cooke's School of Anatomy and Physiology; Malcolm Wheeler, of Edinburgh University and St. Thomas's Hospital; Gordon C. Barker, of King's College; William F. Cross, of St. Bartholomew's Hospital; L. H. Callender and Robert W. Dodgson, of St. Mary's Hospital; A. H. Waring, of University College.

Anatomy only.—Edwin Folliott, William M. Coghlan and Bernard W. Holmes, of St. Bartholomew's Hospital; Percy H. Collingwood, James H. de Villiers, George Candler and Frank E. Saunders, of St. Thomas's Hospital; Norman Macdonald, of St. Mary's Hospital; Thomas Herbert, of Middlesex Hospital; Arthur S. Turner, of Guy's Hospital; Alfred W. Hayles, of King's College.

Physiology only.—Gerald H. Goddard and Charles F. Wanhill, of University College; Frederick E. H. Keogh, of St. Mary's Hospital.

Eleven candidates were referred in both subjects, three in Anatomy only and eleven in Physiology only.

Passed on the 9th inst.:—

Anatomy and Physiology.—Clement H. Hunter, Harry F. Spon and *Ernest T. Shorland, of Guy's Hospital*; Sidney H. White, John B. Brash and Sidney Bridger, of University College; Frank Copeland, of Westminster Hospital; *George W. Connor* and Thos. H. Wells, of Middlesex Hospital; William W. Woolliscroft, *of* Charing-cross Hospital; Francis R. S. Cosens and George A. Leon, of London Hospital.

Anatomy only.—William P. Brooke and Montague M. Lowsley, of Charing-cross Hospital; Arthur B. R. Sworn, of University College.

Physiology only.—Richard Lumley Roberts, of Guy's Hospital; Thomas J. McCulla, of London Hospital and Mr. Cooke's School of Anatomy and Physiology; John Blackwood, of University College.

Eighteen candidates were referred in both subjects, three in Anatomy only, and three in Physiology only.

Passed on the 11th inst.:—

Anatomy and Physiology.—Charles J. Kearney and William L. B. Davies, of Guy's Hospital; Richard D. Fisher, Edwin C. Smith and Thomas P. Littlejohn, of London Hospital; *Jonas W.* Leake, Robert W. S. Christmas, of Charing-cross Hospital; S. E. A. Zichy-Wornarski, of Melbourne University; Marcus B. Johnson, of Cambridge University and St. Mary's Hospital; Joseph Hayes, of *McGill College*, Montreal, and Mr. Cooke's School of Anatomy and Physiology; Francis E. Clay, of Westminster Hospital.

Anatomy only.—Duncan N. Maclennan, of Queen's University, Kingston, Canada, and Mr. Cooke's School *of Anatomy and* Physiology; Harold E. Dixon and Thomas W. Turner, of London Hospital; Lewis Savin, of Middlesex Hospital; Willie N. Barron, of St. Bartholomew's Hospital.

Physiology only.—Henry C. Lambart, of *Queen's College*, Birmingham, and Bristol School of Medicine; Alfred B. Wright, Alexander S. Grant, of London Hospital; *John A. MacPhail, of McGill College*, Montreal: David C. Kemp, of University College; Arthur E. Peake and Frederick Moreton, of Westminster Hospital; Alfred R. Hitchfield, of Guy's Hospital; A. A. Rogers, of St. Bartholomew's Hospital; *William Ashford*, of St. Thomas's Hospital.

Nine candidates were referred in both subjects, five in Anatomy only and four *in* Physiology only.

Passed on the 12th inst.:—

Physiology only.—Henry Harvey, William P. Thomas John J. Spears and Wm. F. Adams, of London Hospital; Montague H. C. Palmer, of Cambridge University and London Hospital; James R. Webb, of Melbourne University and London Hospital; Richard D. Stacy, William H. Pope, Martin A. Cooke, Percy W. G. Shelley, Burroughs M. Hughes and Alfred N. Wilde, of St. Bartholomew's Hospital; Walter J. O. Ray and Edward Haines, of St. Thomas's Hospital; William Gilbertson, of Cambridge University and St. Thomas's Hospital; Edward Fisk, William F. Byford, Stanley Rivers, Thomas S. Biggs and Percy E. Tresidder, of Guy's Hospital; Arthur T. Davey and John Gardiner, *of* Middlesex Hospital; Charles Mathews, of St. Mary's Hospital; Daniel Fogarty, of Ledwich School of Medicine, Dublin, and Mr. Cooke's School of Anatomy and Physiology.

Eleven candidates were referred.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentleman, having passed the necessary examinations and having now attained the legal age of twenty-five years, was at the quarterly *meeting of* the Council on the 14th inst., admitted a Fellow of the College:—

Lea, Arnold William Warrington, M.B. Lond., L.R.C.P. Lond., of Owens College and Royal Infirmary, Manchester; diploma of Member dated Aug. 1st, 1889.

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates have passed the recent Primary Examination in the respective subjects:—

Chemistry, Materia Medica, Botany, and Pharmacy.—E. M. Aikin, H. L. Billett, E. C Bond, F. Butcher, E. L. Colebrook, J. G. Horwood, C. E. Long, and E. M. Wells, of the Royal Free *Hospital*; E. G. Smith, Westminster Hospital; J. K. H. Smyth, St. Mary's Hospital; A. Wheeler, Edinburgh.

Chemistry.—J. Ash, Charing-*cross* Hospital; S. A. Clarke, Middlesex Hospital; M. Orange, Royal Free Hospital.

Materia Medica, Botany, and Pharmacy.—E. G. Adams, L. M. Blake, E. Briggs, E. M. Gough, M. H. Harris, E. J. *Macgowan*, H. M. Maitland, M. Thorne, and C. S. Vines, of the Royal Free Hospital; C. Basan and S. Smith, Middlesex Hospital; C. Bayley, Charing-cross Hospital; A. P. B. Ellis, City School of Chemistry; F. T. Knott, Guy's Hospital; L. Macrae, King's College Hospital.

Anatomy and Physiology.—R. B. Allen and A. E. Mellersh, of St. Mary's Hospital; A. T. Anderson, Owens College, Manchester; E. Bentham, C. T. Green, Rukhmabai, L. E. V. Saville, and A. M. *Thornett*. Royal Free Hospital; H. Clough, Yorkshire College, Leeds; R. Crawford, Belfast; W. J. Gething, Queen's College, Birmingham; W. A. Higgins, Cambridge; D. W. Jones, H. S. Oliver, and T. H. P. Peers, Charing-cross Hospital.

Anatomy.—J. Abrines and A. H. Wade, St. Bartholomew's Hospital; J. T. Brickwell, Guy's Hospital; A. H. Bygott, Queen's College, Birmingham; R. N. de Beauvais, Aberdeen; E. T. Fitzpatrick, Dublin; F. B. Hargreaves, Owens College; E. J. Macgowan, Royal Free Hospital; and A. Wheeler, Edinburgh.

Physiology.—C. Basan, *Middlesex Hospital*; W. *E. V. Gould, Queen's* College, Birmingham; T. E. Johnson and T. J. M'Culla, London Hospital.

KILSYTH, STIRLING.—*It is stated that* Sir Archibald Edmonstone has given the town council of Kilsyth a right to supply water, which will be in addition to the present service, from a spring near Corry, as well as ground for a reservoir, free of expense.

DEVONSHIRE HOSPITAL, BUXTON.—The half-yearly report of this hospital is worthy of notice, for it shows a new departure worthy of imitation by provincial and other institutions of a similar kind. In addition to the medical report of the patients under treatment there is a statistical supplementary medical report, detailing the statistics of *cases of rheumatism, rheumatoid* arthritis and sciatica, which are collected from notes made since the commencement of the year. This report will give information of value as regards some of the most important points in the etiology of the diseases mentioned, but must be carried on for a much longer time before conclusions of value can be drawn. The house surgeon, Mr. E. Valentine Gibson, and the assistant house surgeon, Mr. H. R. Lloyd-Davies, *are to be congratulated* on this addition to the report, for without their voluntary exertions it would not have appeared.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—The *annual meeting was held on Friday*, July 8th, Dr. Chas. Wells, President, in the chair. Dr. Wells delivered his valedictory address, in which he congratulated the Society *upon the satisfactory* progress of its tenth session. The papers generally have been upon subjects commanding attention and attracting interest, and the evenings devoted to the exhibition of clinical cases proved, as heretofore, very popular and were largely attended. He then referred *to the excellence* of the Cavendish Lecture by Sir Charles. Cameron, on the Etiology of Typhoid Fever. The subject was admirably chosen, practical, full of original work, *and the interesting* experiments showing the diffusion of gases through porous soils were very striking, especially in relation to the fact of the greater frequency of typhoid fever upon gravel than upon the clay. This has a considerable bearing upon the salubrity of the locality of London. "Gravels," says Dr. E. A. Parkes in his "Practical Hygiene," "of any depth are always healthy except when they are much below *the general* surface and water rises through them," and many other authorities testify to the same result. It seems, therefore, that the old prejudice against living upon the clay is not well founded, certainly as regards the prophylaxis of enteric fever. Dr. Wells *quoted* from the reports of the medical officer of health of Hampstead, where the average death-rate from all zymotic diseases is 1·1 per 1000, in support of this theory. He *also corroborated* Sir Charles Cameron in pointing out the dangers of underground air entering *our dwellings*, and insisted upon the importance of covering the whole or the site of the house with cement or allied material. Aftef referring with much regret to the loss by *death* of four members, Dr. Wells in conclusion again very heartily thanked the Society for the high honour conferred upon him by his election to the presidential chair and warmly acknowledged the generous support and assistance he had received from the Council and officers during his term of office. A vote of thanks to Dr. Wells was carried with acclamation. The following officers and Council were elected for the *session* 1892–1893:—President: Mr. Swinford Edwards. Vice-Presidents: Mr. R. W. Lloyd, Dr. J. B. Ball, Mr. L. Mark and Dr. Symons Eccles. Council: Drs. Abraham, Banning, Batten, C. W. Chapman, Clippingdale, Masters, Schacht, Messrs. Benham, Bruce Clarke, Percy Dunn, R. Lake and Mansbridge. Treasurer: Mr. Gunton Alderton. Secretaries: Mr. J. Herbert Menzies and Dr. A. Clemow. Librarian: Dr. Schacht.

THE Queen has been pleased to give directions for the appointment of Francis Volcy Pougnet, Esq. M.D., to be a member of the Council of Government of the Colony of Mauritius.

KIDDERMINSTER INFIRMARY.—The committee of this institution has accepted an offer from Mr. Howard C. Jobson of Summerhill to give a donation of £250 to endow a bed in the infirmary in memory of the late Mr. W. C. Audry.

DISEASED MEAT AT ILKESTON.—A Nottingham butcher has been prosecuted by the town authorities, at the Ilkeston Petty Sessions, for exposing for sale forty-seven pieces of meat unfit for human food, and fined 3*s.* for each piece and costs—total £8 7*s.* 6*d.*

LONDON SCHOOL OF DENTAL SURGERY.—On Wednesday, at the Royal Institute Galleries, Piccadilly, Professor St. George Mivart, F.R.S., distributed the prizes won by the successful students at this school, which is in connexion with the Dental Hospital. After the distribution the professor referred to the growth of the school as shown by the fact that, whereas in 1875 the students numbered but ten, at the present time they had increased to one hundred. The principal prize winners were Mr. G. Northcroft, who gained the Saunders's Scholarship, and Mr. H. J. Stevens, who won the prize given by Messrs. Ash and Sons for the best essay. The first prizes in class subjects were awarded to the following: Mr. H. J. Stevens, in Dental Metallurgy and Dental Surgery; Mr. E. H. Harwood, in Dental Mechanics; Mr. T. H. Clarence, in Operating; and Mr. H. W. Trewby, in Dental Anatomy.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION.—At a meeting of the Council held at their rooms, 3, Bolt-court, Fleet-street, on July 12th, 1892, the case of the late Mr. C. A. Walters of Cheltenham, who died on the 8th inst., was further considered, and the following resolutions were unanimously passed: "That the suspension of Mr. Walters by the guardians of Cheltenham for declining to attend the child of Drusilla Cook without a medical order, which was no dereliction of duty whatever, was not only uncalled for but also seriously unjust. That the 'severe censure' passed on Mr. Walters by the Local Government Board for no serious fault, and which appears to have accelerated his death, was unwarranted and even cruel, and especially to a medical officer who had held his appointment for thirty-eight years. That in the opinion of this Council the guardians of the Cheltenham Union were themselves guilty of a grave error in having sanctioned any form of relief being given to Drusilla Cook, who had received over £100 since the death of her husband, and this within the past twelve months, and who had £30 deposited in the savings bank at the time her weekly allowance was granted by the board. That a copy of these resolutions be sent to the guardians of the Cheltenham Union, to the medical journals, and to the Cheltenham local press."

DENTISTRY AND WORKHOUSE CHILDREN.—At the weekly meeting of the Strand Board of Guardians on Tuesday evening an important discussion arose on a communication from the Local Government Board approving of a resolution passed by the guardians of the Strand Union at a recent meeting for the appointment of a qualified professional dentist to attend the children of the schools at Edmonton, the salary, however, not to be made a charge on the common poor fund. The chairman remarked that this was the first appointment of the kind made by any metropolitan or provincial board of guardians, and he thought the Strand Union deserved every credit for initiating such a necessary and beneficial advance in the hygienic treatment of the poor children in their workhouses and schools; but he could not understand the objection of the Local Government Board to charging the dentist's stipend on the common poor fund. Mr. Walker was glad to note that the course taken by the guardians had met with the approval of their regular medical and surgical staff, and there was no narrow-minded professional jealousy or animus shown at the proposed creation of a new semi-medical office. There was a large number of children in the schools of the Union, and for their present physical comforts and future health and prospects in life it was essential their teeth should be well looked after. Several other guardians concurred in the importance of the subject, and in the result the board agreed to carry out the instructions of the Whitehall authorities and to elect a duly qualified dentist at the next meeting.

A HOSPITAL FOR STOURBRIDGE &c.—Mr. John Corbett, late M.P. for Mid-Worcester, has made a further donation of £500 for furnishing and equipping the hospital he is founding for the Stourbridge and Brierley-hill district.

OPEN SPACES.—The Local Government Board has sanctioned the borrowing of £41,250 by the Corporation of Dewsbury, for the purchase and laying-out of a public park and street improvements. The estimated cost of the park is £33,250.

PHARMACEUTICAL SOCIETY OF IRELAND.—The following candidates have obtained the licence of the Society: R. S. Moore, T. J. Walsh, G. F. Walsh, T. Whelehan, G. F. Stevenson, M. L. Tierney, R. J. Cahir, W. J. Hartnett, C. O'Connor, J. H. Graham, H. A. Kelso, and J. W. Peatt.

UNIVERSITY COLLEGE HOSPITAL.—In consequence of the necessity for carrying out extensive repairs, painting, &c., it has been decided to close University College Hospital, with the exception of the maternity department, for six weeks from the 20th inst. The committee appeal for funds to enable them to meet the heavy expenditure.

PRESENTATION TO DR. J. H. BRIDGES.—A massive silver bowl was presented to Dr. J. H. Bridges on Monday, July 4th, in the library of the British Medical Association, 429, Strand, W.C. The bowl had been subscribed for by the medical officers of the metropolitan fever hospitals, district asylums, poor-law schools and workhouses. The chairman, Mr. J. Adams Clarke (Medical Officer of the St. Pancras Schools at Leavesden), in making the presentation, paid a graceful tribute to Dr. Bridges' high qualifications, ability, and courtesy, and acknowledged the help invariably shown by him to those with whom he came into official contact. Dr. MacCombie (of the South-Eastern Hospital) expressed the regard felt for Dr. Bridges by the medical superintendents of the metropolitan fever hospitals, and Dr. A. H. Robinson (of Mile End Infirmary) spoke on behalf of the infirmaries and schools. Dr. Bridges, after expressing his gratification at the handsome present he had just received, spoke of the numerous difficulties encountered when he assumed the duties of an Inspector of the Local Government Board twenty-three years ago. Dr. Bridges, in taking leave of those present, hoped that he should not lose touch of those medical officers with whom he had been in official contact for so many years. The proceedings were brought to a termination by formal votes of thanks to the chairman and to the secretaries of the movement, Drs. Littlejohn and Sydney Stephenson.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ALCOCK, REGINALD, has been appointed Assistant House Surgeon to the North Staffordshire Infirmary and Eye Hospital, vice J. F. Crombie.

ANDREW, A., L.R.C.P., L.M. Irel., has been appointed Medical Officer for the Glossop Sanitary District of the Glossop Union.

BENSON, ANNETTE M., M.B., B.Sc. Lond., has been appointed Resident Medical Officer to the Victoria Hospital for Children, Hull.

CARLING, W., B.A., M.B., B.C. Cantab., has been appointed Assistant House Surgeon to Guy's Hospital.

CARROLL, J., M.B., C.M. Glasg., D.P.H. Camb., has been reappointed Medical Officer of Health for Ilkeston.

CROMBIE, J. FRANK, M.B., C.M. Edin., has been appointed House Surgeon to Great Yarmouth Hospital.

EATON, J., M.R.C.S., has been appointed Medical Officer for the Spittlegate Sanitary District and Workhouse, and Public Vaccinator to the Grantham Union, vice Bailey, resigned.

EVANS, A. ERNEST, M.B., C.M. Glasg., has been appointed House Physician to the City of London Chest Hospital.

FAGAN, JOSEPH P., L.R.C.S., L.R.C.P. Irel., L.M., has been appointed Assistant Surgeon to the South Dispensary, Liverpool, vice Dr. J. G. Moyles, resigned.

FARQUHARSON, WM. F., M.B. Edin., has been appointed Assistant Medical Superintendent to the Counties Asylum, Carlisle, vice D. M. M. Ross, M.B.

FOLKER, HENRY HERBERT, M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Assistant Ophthalmic Surgeon to the North Staffordshire Infirmary and Eye Hospital.

FULLER, JOHN R., M.R.C.S., L.R.C.P. Lond., has been appointed Senior Resident Medical Officer of the Birmingham Children's Hospital.

GARRETT, JOHN HY., M.D., L.S.Sc. Durh., D.P.H. Camb., has been appointed Medical Officer of Health for the Borough of Cheltenham vice Dr. Sampson Roch, resigned.

ODSON, A. H., B.A., M.B., B.C. Cantab., has been appointed Assistant House Surgeon to Guy's Hospital.

REEN, A., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Surgeon of the Chesterfield and North-East Derbyshire Hospital.

HAWORTH, S. R., M.D., C.M. Irel., has been appointed House Surgeon to the Bridgnorth Infirmary, vice Craig, resigned.

HOUGHTON, MURTAUGH J., L.S.A., has been appointed Assistant to the House Surgeon and Physician at the Wolverhampton General Hospital, vice R. S. Hogarth.

OHNSON, T. C., M.B., C.M. Edin., has been appointed Medical Officer for the Middleham Western Sanitary District of the Leyburn Union.

MURRAY, R. W., F.R.C.S. Eng., has been appointed Surgeon to the Liverpool Infirmary for Children, vice R. N. Pughe, resigned.

PEARSON, JOSEPH, M.B., C.M. Aberd., has been appointed Honorary Assistant Medical Officer to the Children's Hospital, Sheffield, vice C. H. Willey, M.D.

RAINY, HARRY, M.B., C.M. Edin., has been appointed Resident Medical Officer to the Chalmers Hospital, Edinburgh, vice Mackenzie.

RICHARDSON, G. Q., L.R.C.P., L.R.C.S. Irel., has been appointed Junior Resident Medical Officer of the Birmingham Children's Hospital.

ROBERTS, J. LLOYD, M.B., C.M. Edin., D.P.H. Eng., has been reappointed Medical Officer of Health for the Abergele and Pensarn Urban Sanitary District of the St. Asaph Union.

ROSS, DONALD M. M., M.B., C.M. Edin., Senior Assistant Medical Officer, Cumberland and Westmoreland Asylum, Carlisle, has been appointed District Medical Officer in the Government Medical Service, Jamaica.

SLEVIN, P. J., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the West Drayton Sanitary District of the Uxbridge Union.

TURNBULL, W. H., M.B., B.S., B.Hy. Durh., has been appointed Medical Officer of Health for the Borough of South Shields, vice Dr. T. E. Hill.

WETHERELL, J. A., M.D., C.M. Edin., has been appointed Resident Medical Officer and Government Resident at Wyndham, Western Australia.

WILLEY, C. H., M.D., has been appointed Honorary Medical Officer to the Children's Hospital, Sheffield.

YOUNG, F. C., B.A., M.B., B.C. Cantab., has been appointed Assistant House Physician to Guy's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

ANCOATS HOSPITAL, Manchester.—Senior House Surgeon. Salary £80, with board and washing.

BOROUGH HOSPITAL, Birkenhead.—Junior House Surgeon. Salary £60 per annum, with board and lodging, but no wine, spirits, or beer. A further sum of from £20 to £25 per annum is usually obtained in fees.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £70, with board, residence and washing.

BURY DISPENSARY HOSPITAL, Bury, Lancashire. — Senior House Surgeon. Salary £100 per annum, with board, residence, and attendance.

ECCLES AND PATRICROFT HOSPITAL.—House Surgeon. Salary commencing at £60 per annum, with board and residence in hospital. (Apply to the Honorary Treasurer, 11, Quay-street, Manchester.)

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark-bridge-road, S.E.—Junior Resident Medical Officer. Salary £50.

FULHAM UNION.—Assistant Medical Superintendent of the Infirmary. Salary £100 per annum, increasing £10 yearly to a maximum of £130, with board, furnished apartments, attendance and washing.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—House Surgeon. Salary £60 per annum, with board and lodging in the hospital.

HORTON INFIRMARY, Banbury.—House Surgeon and Dispenser. Salary £60 per annum, with board and lodging.

JOINT COUNTIES ASYLUM, Abergavenny.—Junior Assistant Medical Officer. Salary (a progressive one) commences at £100 a year, with apartments, board and attendance.

LINCOLN ODDFELLOWS' MEDICAL INSTITUTE.—A qualified Assistant. Salary £120 a year (out-door). (Apply to the Secretary, 12, North Parade, Lincoln.)

LIVERPOOL NORTHERN HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with residence and maintenance in the house.

LOUGHBOROUGH FRIENDLY SOCIETIES' MEDICAL AID ASSOCIATION.—Junior Medical Officer. Commencing salary £160 per annum.

MCGILL UNIVERSITY, Montreal, Canada.—Professorship of Pathology for the Faculties of Medicine and Comparative Medicine for one year. Salary for provisional appointment for one year £400 sterling. (Apply to the Dean, Montreal, Canada.)

METROPOLITAN ASYLUMS BOARD, Norfolk-street, Strand, W.C.—Clinical Assistant at the Darenth Schools and Pavilions for Imbeciles, near Dartford, Kent. Board, lodging and washing provided.

NOTTINGHAM BOROUGH ASYLUM.—Resident Clinical Assistant for six months. Board and residence provided.

QUEEN'S HOSPITAL, Birmingham.—Physician for Out-patients and Pathologist to the Institution for three years. Annual honorarium £75.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-bridge-road, S.E.—Obstetric Physician.

ROYAL PORTSMOUTH, PORTSEA, AND GOSPORT HOSPITAL, Portsea.—Assistant House Surgeon for six months. Board, residence and washing, and an honorarium of £15 15s. at expiration of term of office.

ROYAL SEA-BATHING INFIRMARY FOR SCROFULA, Margate.—Resident Surgeon. Salary £100 per annum, with board and residence. (Apply to the Secretary, Offices, 30, Charing-cross, S.W.)

SHEFFIELD PUBLIC HOSPITAL AND DISPENSARY.—Senior Assistant House Surgeon. Salary £65 per annum, with board, lodging and washing.

ST. LUKE'S HOSPITAL.—Resident Clinical Assistant for six months, with board and residence.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, W.—Resident Medical Officer. Salary £105 per annum, with furnished apartments, attendance, coal and gas.

VICTORIA INFIRMARY OF GLASGOW.—Superintendent and Resident Medical Officer. Commencing salary £150 per annum, with apartments and board.

WEST KENT GENERAL HOSPITAL, Maidstone.—House Surgeon. Salary £150 per annum, with furnished apartments, coals, gas and attendance in the hospital.

WONFORD HOUSE HOSPITAL FOR THE INSANE, near Exeter.—Assistant Medical Officer. Salary £150 per annum, with board, furnished apartments, and washing.

WORCESTER AMALGAMATED FRIENDLY SOCIETIES' MEDICAL ASSOCIATION, Worcester.—Assistant Medical Officer. Salary (without residence) £140 per annum, with part of Midwifery fees; also £20 per year for cab hire.

Births, Marriages, and Deaths.

BIRTHS.

DUNLOP.—On June 30th, the wife of Shuldham Dunlop, M.D., Holywood, county Down, of a son.

FRAZER.—On July 9th, at Bellgrove-terrace, Newcastle-on-Tyne, the wife of Surgeon-Major P. T. Frazer, Army Medical Staff (Retired), of a daughter.

HAIRSINE.—On July 4th, at Roose House, Upper Tooting, S.W., the wife of Hudson Hairsine, L.R.C.P., of a son.

LANGTON.—On July 12th, at Marlborough-place, Brighton, the wife of Herbert Langton, M.R.C.S., of a daughter.

MARTIN.—On July 12th, at Arnheim, Blackburn, the wife of John M. H. Martin, M.D (Vict.), F.R.C.S. Eng., J.P., of a son.

MORRIS.—On July 12th, at Windhill, Bishop's Stortford, the wife of John Edward Morris, M.D., of a daughter.

SELBY.—On July 11th, at Teynham, Kent, the wife of Prideaux George Selby, L.R.C.P. Lond., M.R.C.S., of a daughter.

WALE.—On July 6th, at High-street, Croydon, the wife of George Wale, L.R.C.P. Lond., D.P.H. Camb., M.R.C.S., of a son.

MARRIAGES.

COLE-BAKER—LYSTER.—On July 13th, at St. Peter's Church, Dublin, G. Cole-Baker, M.B., Assistant Master, Coombe Hospital, 28, Lower Baggot-street, to Florence, widow of the late Philip T. Lyster, R.M.

HARDEN—LEVY.—On July 6th, at St. Mark's, Hamilton-terrace, N.W., Edward Henry Thornborough Harden, M.R.C.S., L.R.C.P. Lond., eldest son of the late Henry Harden, M.R.C.S., of St. Mawes, Cornwall, to Emily Agnes, youngest daughter of the late Albert Levy, of Hall-road, N.W.

LUKE—RUSSELL.—On July 12th, at The Lodge, Elie, N.B., by the Rev. P. Hay Hunter, Minister of Yester, assisted by the Rev. R. H. Dunlop, Minister of Elie, and the Rev. Duncan MacGregor, Minister of the Free Church, Elie, James Luke, M.B., C.M., to Elizabeth, daughter of the late George Russell, J.P., of The Lodge, Elie.

PINHORN—BRYANT.—On July 7th, at Christchurch, Marylebone, Richard Pinhorn, M.R.C.S., L.R.C.P. Lond., L.S.A., of Cambridge-terrace, Dover, to Susan Catherine Victoire, widow of the late Lieut.-Colonel G. F. Bryant, Indian Army (2nd Belooch Regt.).

SCOTT—LAMB.—On July 6th, at St. Stephen's Church, C.-on-M., Manchester, Benjamin Scott, M.B., C.M., of Ardwick-green, Manchester, to Alice Mary (Mollie), second daughter of the late Alderman Joseph Lamb, J.P.

SCOTT—MOLONY.—On July 5th, at Christ Church, Crookham, Hants, Horatio Scott, M.D., Surgeon-Major Retired, of Basingbourne, Fleet, Hants, son of the late Rev. J. L. M. Scott, Rector of Portaferry, to Eleanor Florence, second daughter of the late Frederick Beresford Molony, Madras Civil Service.

WIGAN—HOPKINS.—On July 6th, at Easton Church, near Winchester, Charles Arthur Wigan, M.D., of Portishead, Somerset, to Emily, daughter of Major Powell Hopkins, late 15th Regiment, and grand-daughter of the late General Sir Philip Baimbrigge, K.C.B.

DEATHS.

BALKWILL.—On July 11th, very suddenly, at 14, Old Cavendish-street, Cavendish-square, London, William Edward Balkwill, aged 43.

BURCHELL.—On July 5th, at Delamere, Bradwell-on-Sea, Southminster, Essex, Peter Lodwick Burchell, M.B. Lond., F.R.C.S. Eng., aged 74 years and 10 months.

DOUTY.—On July 12th, at Moulsford, J. Harrington Douty, M.R.C.S., L.S.A., Superintendent of the Berks County Asylum, late of Netherhampton, Salisbury, aged 34.

MURPHY.—On June 24th, at Cork, Surgeon-Major F. H. S. Murphy, Army Medical Staff, aged 37.

RUTHERFORD.—On July 2nd, at Pulborough, Sussex, Samuel Rutherford, M.D., M.R.C.S., L.S.A., aged 54.

SYLVESTER.—On July 10th, at Dry Hill Park, Tunbridge, Harold Augustus Sylvester, M.R.C.S., fifth son of S. A. Sylvester, in his 26th year.

WALLACE.—On July 5th, at Grange Mount, Claughton, Cheshire, Quintin Macadam Wallace, M.D., aged 30.

WALTERS.—On July 8th, at Wharfdale House, Cheltenham, Charles Astley Walters, M.R.C.S., aged 67.

WEISS.—On July 4th, Hubert Foveaux Weiss, F.R.C.S. Eng., of Granville-gardens, Ramsgate, and Piccadilly, W., aged 37.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 14th, 1892.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
July 8	29·97	N.W.	61	54	125	73	53	...	Bright
„ 9	30·11	W.	62	56	125	73	54	...	Cloudy
„ 10	30·01	W.	61	55	110	69	54	..	Overcast
„ 11	30·03	S.E.	61	57	112	68	57	..	Overcast
„ 12	29·64	S.E.	61	57	107	67	56	..	Cloudy
„ 13	29·56	S.E.	60	58	107	63	57	·16	Cloudy
„ 14	29·79	N.E.	56	55	70	59	55	·04	Overcast

Notes, Short Comments & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

THE DISCOVERY OF THE CIRCULATION OF THE BLOOD.

NO discovery has been so gradual as that of the circulation of the blood, and an adequate history of the steps by which the ground was prepared for Harvey's immortal induction has yet to be written. We have had monographs from time to time setting forth the claims of pioneers like the Spaniard Serveto and the Italian Cesalpino to having, in part if not in whole, anticipated the English physiologist, while enthusiastic "vindicators" like Dr. Archibald Pitcairne have contended that for those who can "read between the lines" the discovery was as good as made by Hippocrates himself. But, we repeat, a competent historian of the most momentous finding in physiology has yet to appear. Early in the third century after Christ (a scholarly correspondent reminds us), probably in the reign of the Emperor Caracalla, were published the "Recognitions of Clement," in the eighth book of which there is certainly a remarkable adumbration of Harvey's discovery: "What shall I say of the substance of the blood which, proceeding as a river from a fountain and first borne along in one channel and then spreading through innumerable veins, irrigates the whole territory of the human body with vital streams, being supplied by the agency of the liver, which has its seat in the right side for effecting the digestion of food and turning it into blood?" The passage is of deep interest, and in that history which we have already desiderated must find its place as an important link in the inductive chain which it was reserved for Harvey to complete and to connect with universal truth.

Anxious.—It is only safe to employ a qualified assistant under the immediate supervision of the principal and living in the same house.

Mr. J. W. Cook.—We do not recommend practitioners.

PSEUDO-CYESIS.

To the Editors of THE LANCET.

SIRS,—You may think the following case of spurious pregnancy of sufficient interest for publication.

A lady engaged me to attend her in her confinement. She stated that she was eight months pregnant. Inquiring her age, I discovered she was fifty-two years old, which surprised me, and I obtained the following history. Until to eight months before she had been perfectly regular and showed no signs of change of life. She was a widow with two children, the youngest being of age. She had incurred the risk of impregnation eight months previously with a man who promised her marriage, which promise he has not fulfilled. Morning sickness almost immediately set in and lasted for seven weeks. The breasts became painful and she "quickened" at the beginning of the sixth month, since when, she said, "the kicks have often made me feel faint." She increased greatly in size. I did not then examine her. Five weeks later I was sent for, as she was said to be in labour. The pains were very strong and frequent on my arrival. Palpation failed to reveal the presence of a child, though the abdomen was very large; breasts turgid and secreting milk freely. While examining the abdomen I saw a distinct impulse, and on placing my hand over the point felt the rectus muscle violently contract. It was very like the kick of a child. Vaginal mucous membrane normal in colour; cervix ulcerated and congested. The sound passed into the womb registered 3½ in. The os slightly patulous. Temperature of patient 100°; pulse 100 and irregular. I assured the patient and her friends that she was not pregnant, but I think they would like to have assured me I was not sane. However, I insisted upon it, and very shortly the pain ceased. Next morning the breasts had ceased to secrete milk, the abdomen was decidedly less in size and there had been no pain. I ordered the patient up and to go out (she had not been out for nine months, fearing recognition of her state), which she did, and a few days after had a regular menstrual flow and is now in her normal healthy condition. The patient after connexion had been much worried, fearing impregnation, and had been unable to sleep, and the symptoms very soon showed themselves and followed the regular order. She had disclosed her condition to her family, causing much grief, and in all good faith had prepared everything for her confinement and lying-in.

I am, Sirs, yours faithfully,

July, 1892. G. HAY REYNOLDS, M.B.

MEDICAL AID ASSOCIATIONS.

To the Editors of THE LANCET.

SIRS,—In reply to the question asked by "A. H. T. D.," may I point out that there is nothing to prevent any association from making a contract with a member of the legal profession in order to obtain advice at a low rate, and that if the Incorporated Law Society or the General Medical Council try to interfere in these matters they will have to be dealt with by a still more powerful body, the House of Commons, the vast majority of whose members are dependent for their seats on the votes of men who are either members of friendly societies or who sympathise with those who are. Moreover, were the whole population of these islands to secure advice and medicine by paying 1*d.* per week the income of a medical man would be about £300 a year, and if we consider that the larger incomes made in our profession are drawn from a comparatively small wealthy class who will not join friendly societies, we can see that no increase of such societies can greatly reduce the incomes of medical men. I have been in the employment of a practitioner who paid me barely 5 per cent. of the income he received from my work, whereas now, in the employment of a friendly society, I receive about 50 per cent. of the payments of members and all the midwifery fees. What is it to me who gets the surplus, and why should I fancy I have any claim on it? There are many other reasons which make me prefer my present position to that of an assistant; there is no possibility of differing on a professional matter from my employer—a difference which, whether he proves to be right or wrong, results unpleasantly for an assistant; I hold a permanency during good behaviour, and cannot be dismissed to make way for a partner or for the principal's son (newly qualified); my employers increase my salary according to promise and do not allege that "business is bad," for the plain reason that they have no interest in doing otherwise; I receive far more respect from my patients than I should receive in a surgery, where the patient, having his fee ready and knowing that other surgeries are open to him, regards the doctor as he does the publican. I very seldom see my employers, and am not interfered with by them in the discharge of my duties. All these reasons lead me to think that assistants are justified in looking on even a junior position in connexion with a medical association as a prize, and that they do so is shown by the keen competition for such appointments. As to the fact that the parish nurses attend our cases, I may point out that instances are not rare in which even patients who pay large fees to their medical attendant seek the services of these women. In conclusion I may say that I have heard of no instance in which a doctor was refused an appointment because of his having been connected with a Medical Aid Society.

I am, Sirs, yours faithfully,

VERAX.

July, 1892.

INCREASE OF MEDICAL OFFICERS' SALARY.

A GENERAL MEETING of the Glamorgan County Council Asylum Committee was held recently to consider applications on behalf of the medical staff for increase of salary on account of increased duties. It was recommended that the medical superintendent, Dr. Pringle, should have his salary increased from £800 to £1000; Dr. Stewart, second in charge, to have an increase from £200 to £250; Dr. Findlay to be raised from £150 to £200; and another medical officer at Angeltown to be increased from £120 to £150.

Suffolk.—The question is hardly one for us to decide, but in the absence of other evidence it would appear as if the clause quoted stated the precedence of the parties.

THE "STABILIMENTO BALNEARE" AT NOCERA.

PROFESSOR MURRI of Bologna, than whom there are few better qualified to speak authoritatively on therapeutics, has put on record his high opinion of the virtues of the waters of Nocera, particularly in gouty affections in which stomach, liver, kidneys and heart are involved. The source that yields the so-called Acqua Bianca has proved of signal efficacy in the uric acid diathesis, and the air of the locality is such as to cooperate effectively in promoting a return to the healthy state. Like other centres of mineral-water supply, Nocera after centuries of popularity fell into disrepute, sharing, indeed, the general decadence that befell Italy after the Renaissance. It was still resorted to in 1714, the year in which a medal was struck to commemorate the building of the Palazzo Nuovo by Pope Clement XI., who highly appreciated its healing resources; but shortly after that date it had almost ceased to attract visitors, in spite of its noble position, its excellent air and the undoubted virtues of its Acqua Bianca. Quite recently, however, it has, like many other Italian institutions, undergone a resurrection, and few "stabilimenti balneari" in the peninsula have done more to merit a return to popular favour. In summer its temperature ranges from 16° to 22° C.; it is sheltered from the hot winds of the south; its air is dry, pure and restorative, not too stimulating for the nervous system and very grateful to delicate chests. It has, moreover, warm alkaline baths for disorders of the skin and for rheumatic and gouty subjects, and its hydrotherapeutic staff consists of able physicians provided with every resource for the inhalation of compressed or rarified air, for the practice of Faradisation and other electrical treatment, culminating in "bagni elettrici" prescribed and administered by well-qualified consultants and attendants. Professor Murri's attestation to the value of the "stabilimento" is confirmed by the written opinions of Professor Castiglioni and Dr. Barduzzi, two eminently sound authorities, who have had personal experience of its efficacy. Add to this the lovely landscape of Umbria, recalling so many *chefs-d'œuvre* of Perugino and his pupil Raphael, and Nocera would seem to be a health resort inferior to none in Italy and to few in Austro-Hungary, Switzerland, Germany or France. Hotel accommodation, usually defective in Italy, has of late years been much improved throughout the peninsula, and that of Nocera, previously sharing in the general roughness of Italian houses, now affords a favourable specimen of the more comfortable appointments demanded by modern civilisation. The season is now at its height, but the early summer and the late autumn have much to recommend them, especially to the visitor from northern latitudes.

Lex.—Much depends on the distance between the towns A and B and the possibility of C being able to take personal interest in and exercise supervision over affairs in town A. The mode of procedure is not ordinary, but we are not prepared to say it is wrong.

THE OPIUM HABIT.

To the Editors of THE LANCET.

SIRS,—In reply to the letter of "Opium" I beg to inform him that there is no limit to the quantity of opium or tincture of opium that a druggist may sell to a customer. A few months since I discovered that a druggist had for many years supplied one of my patients with thirty or forty ounces at a time of tincture of opium. This patient had contracted the opium habit, but although I suspected that small quantities were taken I was astonished to find that it had been possible to procure it in the quantity I have mentioned. I have been informed on good authority that the Sale of Poisons Act does not in any way prohibit the sale of laudanum in any quantity and without any inquiry as to the name of the purchaser or the purpose for which it is required. This reveals a most lamentable state of things, and shows the necessity for an amendment of the law. The Association for Preventing the Sale of Opium to the Chinese should investigate the subject of the facilities for obtaining opium without let or hindrance in England.

I am, Sirs, yours obediently,
July 11th, 1892.
SANITAS.

Medical Superintendent.—Misrepresentation and exaggeration are inexcusable in a lady allowed to visit hospital patients. But any honest criticism directed in the first instance to the authorities of the hospital should be welcomed.

Correspondent.—He should be willing to do so if required.

LIFE INSURANCE.

To the Editors of THE LANCET.

SIRS,—The vital importance of life insurance for the medical profession must be my excuse for asking you to allow me to call your readers' attention to the Pioneer Life Office of Liverpool, which seems to be very little known in London. The advantages offered are so great, the premiums so small and the system so easily grasped that I would advise all intending insurers to thoroughly examine it.

I am, Sirs, yours faithfully,
June 29th, 1892.
M.D.

CHOLERA REGULATIONS.

THE following General Order has been issued by the Local Government Board to port sanitary authorities, urban and rural sanitary authorities, medical officers of health, officers of customs, masters of ships &c.:—

"Whereas cases of an infectious disease alleged to be cholera now exist in certain parts of France and it is expedient that regulations should be made with reference to ships having on board bales of rags from that country, now therefore we, the Local Government Board, do by this our Order, and in exercise of the power conferred on us by Section 130 of the Public Health Act, 1875, by the Public Health Act, 1889, by Section 113 of the Public Health (London) Act, 1891, and every other power enabling us in this behalf, make the following regulations, and declare that they shall be enforced and executed by the authority or authorities specified: 1. From and after July 12th, 1892, and until we shall by order otherwise direct, no rags from France shall be delivered overside, except for the purpose of export, nor landed in any port or place in England or Wales.—2. If any rags shall be delivered overside or landed in contravention of this order, they shall, unless forthwith exported, be destroyed by the person having control over the same, with such precautions as may be directed by the medical officer of health of the sanitary authority within whose jurisdiction or district the same may be found.—3. All masters of ships consignees and other persons having control over any rags prohibited under this order from being delivered overside, except for the purpose of export, or landed, are required to obey these regulations.—4. All officers of customs are empowered to prevent the delivery overside or landing of rags in contravention of this order.—5. It shall be the duty of the sanitary authority to take proceedings against masters of ships, consignees or other persons having control over any rags, who shall wilfully neglect or refuse to obey or carry out, or shall obstruct the execution of any of these regulations." [The Public Health Act, 1875, provides by Section 130 that any person wilfully neglecting, or refusing to obey or carry out, or obstructing the execution of any regulation made under that Section shall be liable to a penalty not exceeding £50.]

CLAIM TO EMERGENCY CASES.

One Anxious to Know.—We think Dr. A. has no claim to the case in question. Claims arise either from previous attendance on patients, or from a sudden call in an emergency. But it cannot be maintained that a message in an emergent case to the practitioner whose door comes first in the messenger's way gives any claim to the case.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Messrs. Allen and Hanburys, London; Mr. R. Bingham Adams, Southsea; Mr. E. Brown, Birmingham; Mr. J. F. Bullar, Southampton; Dr. J. St. Clair Boyd, Belfast; Dr. R. W. Bateman, Newmarket; Messrs. A. and C. Black, Edinburgh; Mr. Baron, Manchester; Messrs. Burgoyne and Co., London; Dr. Bobardt, Newbury; Dr. H. J. Buck, Clapton Common; Mr. J. B. Browne, London; Messrs. Baillière, Tindall, and Cox, London; Mr. Philip Boobbyer, Nottingham; Messrs. Black, London; Mr. Birchall, Liverpool; Dr. Canney, London; Surgeon-Lieutenant-Colonel A. Crombie, Calcutta; Messrs. Chapman and Farrington, London; Mr. Cooke, London; Dr. Coghill, Birmingham; Dr. W. Dale, London; Mr. Davids, Banbury; Mr. J. H. Dewhurst, Tunbridge Wells; Messrs. W. and W. Davies, Brighton; Mr. Havelock Ellis, London; Mr. Fardon, Liverpool; Mr. J. Feare, Liverpool; Mr. Gravatt, London; Messrs. Chas. Griffin and Co., London; Mr. T. Campbell Grey, Swansea; Mr. Heywood, Manchester; Mr. Harding, Loughborough; Messrs. Humphreys, London; Mr. J. W. Lawrence-Hamilton, Brighton; Mr. Hornibrook, London; Mr. M. J. Houghton, Wolverhampton; Dr. Hedley, Brighton; Mr. Johnstone Herbert, Whitby; Mr. C. A. James, London; Dr. Kanthack, Cambridge; Mr. Knight, Dublin; Dr. T. Laffan, Dublin; Mr. Maconochie, London; Mr. McGachen, Tilbury; Mr. Martin, Blackburn; Messrs. McDonald and Sons, London; Mr. Macaulay, Halifax; Messrs. Mitchell and Co., London; Mr. F. M. Mangan, London; Mr. Lewis A. Marin, Bayswater; Dr. James W. Martin, Leith; Messrs. Mason and Co., Chelsea; Mr. A. Nixon; Dr. C. Oakes; Messrs. Oppenheimer Bros. and Co., London; Dr. Oliver, Newcastle-on-Tyne; Dr. Phillips, Birmingham; Mr. Chas. E. Piers, Capetown; Mr. Page, London; Mr. W. T. Palmer, Barking; Mr. Rumble, Camberley; Messrs. Rowntree and Co.; Mr. F. J. Rebman; Dr. Snow; Mr. J. Barker Smith; Mr. C Sers, Peckham; Mr. Smith, London; Mr. Spencer, London; M. Ch Somasco, Creil; Major Singleton, London; Mr. Smith, Westgate-on-Sea; Mr. Storer, Nottingham; Mr. Stallard, Worcester; Dr. Chas. Steele, Bristol; Messrs. Saint and Co., Carlisle; Mr. Thomas, London; Mr. Vickers, London; Dr. Wethered, London; Dr. W. Essex Wynter, London; Messrs. Whitehead, London; Messrs. Wright and Co., Bristol; Mr. Woodcock, Bradford; Messrs Wright, Dain, and Co., Birmingham; Mr. Worfell, London; Messrs. Winser, Sykes, and Co., London; Mr. Williams, Tranmere; Messrs. Whitworth and

Stuart, Manchester; Messrs. Wilson and Blessley, London; Sheffield Public Hospital; *Nursing Record*, London; Agent-General for New Zealand; Secretary, Victoria Infirmary, Glasgow; Secretary, Bury Dispensary Hospital; Hope, London; Lady Superintendent, North London Nursing Association; General Apothecaries' Co., London; The Bursar, Epsom College; M.B., London; Surgeon, London; *Patent Medicine Journal*, &c., London; Mark, London.

Letters, *each with enclosure*, are also acknowledged from—Dr. Lucca Scilla, Italy; Mr. Ward, Cork; Mr. Keens, Luton; Messrs. Keith and Co., Edinburgh; Rev. A. Tooth, Croydon; Mr. Moseley, Upper Caterham; Mrs. Burchell, Bradburn-on-the-Sea; Mr. Marks, New York; Dr. Dixey, Sidcup; Mr. Thin, Edinburgh; Messrs. Battle and Co., Paris; Surgeon-Captain Hughes, Malta; Dr. Pendleton, West Brighton; Mr. Cox, Southport; Mr. Breach, Newbury; Messrs. Lee and Martin, Birmingham; Mr. Cobb, Dolgelly; Mr. Jamison, Ebbw Vale; Mr. Fry, Maidstone; Mr. Brown, Tredegar; Messrs. Thynne and Co., Westminster; Dr. N. Kerr, London; Mr. Mainwaring, West Kensington; Mr. Birkenhead, Coalville; Mr. Groves, Dorset County Asylum; Dr. Ingle, Jersey; Mr. Fox, Chesterfield; Mr. Cochrane, Greenock; Mr. Norman, Buckfastleigh; Mr. Johnstone, Edinburgh; Mr. Cane, Waterford; Mr. Davidson, Ballymena; Mr. Hardy, Maidstone; Mr. Griggs, St. Albans; Mr. Griffiths, Lampeter; Mr. Rhodes, Huddersfield; Mr. McFarland, Smallburgh; Messrs. Benger, Manchester; Mr. Kegworth, Lincoln; Miss Elliott, Manchester; Mr. Tyte, Minchinhampton; Dr. Williams, St. Servan; Mr. Fitzgerald, Queenstown; Mr. Spencer, Devonport; Mr. Findlay, co. Durham; Mr. Bayley, Basingstoke; Mr. Wheatley, Blackburn; Mrs. Rutherford, Sussex; Mr. Wheeler, Manchester; Mr. Deane, Lincoln; Mr. White, Wolverhampton; Mr. Miller, Aysgarth; Mr. Eales, Torquay; Mr. McDonald, Glasgow; Mr. Fiske, Maidstone; Mr. Kerr, York; Mr. Armstrong, London; Dr. Mason, Pontypool; Mr. Walker, Canada; Mr. Duckett, Burnley; Mr. Totten, Bolton; Mr. Goodman, Taunton; Mr. Mackay, Pontnewydd; Dr. Wetherall, Australia; Mr. Johnstone, Canada; Dr. Harvey, Australia; Galen, London; British Medical Protection Society; Anvers, London; H. J., London; Medicus, London; Class Rooms, Edinburgh; Alpha, London; Alpha, Birmingham; College of State Medicine, Bloomsbury; S., London; Secretary, Joint County Asylum, Abergavenny; Kensington, London; Hackney Furnishing Co., London; Transfer, London; K. H. F., London; L. D., Kidderminster; Smith, Eastbourne; Edinburgh, London; Clayton, Edinburgh; Gerald, Cheshire; J. M. M., London; A. B , London; J. W., London; Surgeon, Wantage; Alpha, Farnworth; Edina, Edinburgh; B. C. H., London; 6, Jasper-street, Hanley; B., London; M R.C.S., Finsbury-circus; Beta, London; B., Borough; Tabes, London; Belgrave, London; Medicus, Bristol; Marsden, London; F.R.C.S. Eng., London; M. C., London; York, London; Nucleus, London; Gravitas, Middlesbrough; Sherlock, London.

Newspapers.—*Leicester Daily Post*, *Sydney Morning Herald*, *Brighton Guardian*, *Newcastle Daily Chronicle*, *Birmingham Post*, *Liverpool Courier*, *Western Daily Press*, *Toronto Mail*, *Montreal Daily Star*, *Le Temps (Paris)*, *Health*, *Windsor and Eton Express*, *Local Government Chronicle*, *Law Journal*, *Hertfordshire Mercury*, *Guy's Hospital Gazette*, *Insurance Record*, *Surrey Advertiser*, *Windsor and Eton Gazette*, *Mining Journal*, *Weekly Free Press and Aberdeen Herald*, *Reading Mercury*, *City Press*, *Architect*, *Engineer*, *Nottingham Daily Express*, *Local Government Journal*, *Citizen*, *Builder*, *West Middlesex Advertiser*, *Bradford Observer*, *Midland Evening News*, *Kimberley Independent*, *Scottish Leader*, *Doctor's Weekly (New York)*, *The Times Democrat (New Orleans)*, *Court Journal*, *Sunday Times*, *Scotsman*, *United Service Gazette*, *Nottinghamshire Guardian*, *Woodford Times*, *Bristol Times and Mirror*, *Western Morning News*, *East Grinstead Times*, *Irish Times*, *Express and Star (Wolverhampton)*, *Northern Whig*, *Lynn News*, *Yorkshire Herald*, *Times of India*, *Pioneer Mail*, *The Statesman (Calcutta)*, &c., have been received.

Medical Diary for the ensuing Week.

Monday, July 18.

St. Bartholomew's Hospital.—Operations, 1.30 p.m., and on Tuesday, Wednesday, Friday, and Saturday at the same hour.

Royal London Ophthalmic Hospital, Moorfields.—Operations daily at 10 a.m.

Royal Westminster Ophthalmic Hospital.—Operations, 1.30 p.m. and each day at the same hour.

Chelsea Hospital for Women.—Operations, 2.30 p.m.; Thursday, 2.30.

Hospital for Women, Soho-square.—Operations, 2 p.m., and on Thursday at the same hour.

Metropolitan Free Hospital.—Operations, 2 p.m.

Royal Orthopædic Hospital.—Operations, 2 p.m.

Central London Ophthalmic Hospital.—Operations, 2 p.m., and each day in the week at the same hour.

University College Hospital.—Ear and Throat Department, 9 a.m.; Thursday, 9 a.m.

Tuesday, July 19.

King's College Hospital.—Operations, 2 p.m.; Fridays and Saturdays at the same hour.

Guy's Hospital.—Operations, 1.30 p.m., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 p.m.

St. Thomas's Hospital.—Ophthalmic Operations, 4 p.m.; Friday, 2 p.m.

St. Mark's Hospital.—Operations, 2 p.m.

Cancer Hospital, Brompton.—Operations, 2 p.m.; Saturday, 2 p.m.

Westminster Hospital.—Operations, 2 p.m.

West London Hospital.—Operations, 2.30 p.m.

St. Mary's Hospital.—Operations, 1.30 p.m. Consultations, Monday, 2.30 p.m. Skin Department, Monday and Thursday, 9.30 a.m. Throat Department, Tuesdays and Fridays, 1.30 p.m. Electro-therapeutics, same day, 2 p.m.

Wednesday, July 20.

National Orthopædic Hospital.—Operations, 10 a.m.

Middlesex Hospital.—Operations, 1.30 p.m.; Saturdays, 2 p.m. Obstetrical Operations, Thursdays, 2 p.m.

Charing-cross Hospital.—Operations, 3 p.m., and on Thursday and Friday at the same hour.

St. Thomas's Hospital.—Operations, 1.30 p.m.; Saturday, same hour.

London Hospital.—Operations, 2 p.m.; Thursday & Saturday, same hour.

St. Peter's Hospital, Covent-garden.—Operations, 2 p.m.

Samaritan Free Hospital for Women and Children.—Operations, 2.30 p.m.

Great Northern Central Hospital.—Operations, 2 p.m.

University College Hospital.—Operations, 1.30 p.m.; Skin Department, 1.45 p.m.; Saturday, 9.15 a.m.

Royal Free Hospital.—Operations, 2 p.m., and on Saturday.

Children's Hospital, Great Ormond-street.—Operations, 9.30 a.m. Surgical Visits on Wednesday and Saturday at 9.15 a.m.

Thursday, July 21.

St. George's Hospital.—Operations, 1 p.m. Surgical Consultations, Wednesday, 1.30 p.m. Ophthalmic Operations, Friday, 1.30 p.m.

University College Hospital.—Operations, 2 p.m.; Ear and Throat Department, 9 a.m.

Friday, July 22.

Royal South London Ophthalmic Hospital.—Operations, 2 p.m.

Saturday, July 23.

University College Hospital.—Operations, 2 p.m.; and Skin Department, 9.15 a.m.

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Address in Bacteriology,

Delivered at the Meeting of the British Medical Association at Nottingham,

By G. SIMS WOODHEAD, M.D.Ed., F.R.C.P.Ed.,

DIRECTOR OF THE LABORATORIES OF THE ROYAL COLLEGES OF PHYSICIANS (LONDON) AND SURGEONS (ENGLAND).

Mr. President and Gentlemen,—Had it been announced twenty years ago that one of the annual addresses delivered before this Association would be devoted entirely to a review of the subject, or part of the subject, of bacteriology, such announcement would have been received as coming under the category of prophecies not likely to be fulfilled; and without claiming any very large share of modesty or self-depreciation, I cannot but feel that it is to the unexpected fulfilment of this imaginary prophecy that I owe my present position—a position that would be only too eagerly sought after from the honour that its occupation confers on the holder, were it not that the responsibilities placed on his shoulders must necessarily weigh heavily enough to interfere most seriously with the full enjoyment of the honour. Bacteriology, though a comparatively new science, has already made so deep an imprint on the science and practice of medicine that the enumeration in catalogue form of the various facts upon which, according to our present knowledge, the solution of important medical and surgical questions depends would occupy a much longer time than we have at present at our disposal; it will be my aim, therefore, to indicate very briefly the extension and limitation of bacteriology in its relation to medicine. It may be stated at the outset that in this matter extremists have little claim to be considered, and that, although most thoughtful men maintain that bacteria play a most important *rôle* in the production of disease, it is equally certain that no claim for anything beyond such important share can be claimed for the most virulent of pathogenic microbes. Outside the question of the relation of micro-organisms to the special forms of surgical fevers, a knowledge of the life history of bacteria and the relation of these organisms to specific infective disease is essential to every scientific student of medicine; so definitely, indeed, has this come to be acknowledged that in all our Public Health examinations a knowledge of bacteriology is insisted upon, whilst in many of our civil and military appointments both at home and abroad a fairly intimate knowledge of the theories as to the relations of bacteria to disease is looked upon as constituting a most important qualification in the case of candidates presenting themselves for examination. If, then, the public services are taking up this position, how much more necessary is it that an important Association such as that which I have now the honour to address should wish to encourage its study by such means as they have in their power. As you are aware, some of the earliest and best work on bacteriology has been done by your research scholars, and many of those who have begun this work under the auspices of our Association have made it part of their life work. To mention one example only out of many, Watson Cheyne's accurate work on the life history of the bacillus tuberculosis and on the special relation of this bacillus to tubercle of bones and joints forms a most valuable contribution to bacteriology and surgery.

It has been too much the fashion to look upon bacteriology as an art rather than a science. It was supposed that if we were able to obtain evidence that a definite micro-organism was associated with a specific disease, and that if we could find a means of destroying this organism, or of preventing its access to the tissues the limits of bacteriological teaching would be reached. Thanks, however, to the genius of such men as Pasteur, Koch and Lister, bacteriology is now looked upon as a branch of science the study of which may afford us help in the solution of even fundamental problems in biology; it has assumed such importance that into its service have been pressed the general biologist, the botanist and the pure physiologist; whilst all who practise medicine and surgery feel that they must, at least, be con- ant with the principles that underlie its study. I know re some who will not agree with this, and who will tell , we are bacteria mad; and whilst acknowledging that up this comparatively new subject we may have been len ach undue importance to it, it must be conceded that, studied in its broader aspects, bacteriology has enabled us to grapple with some of the most difficult questions in medicine. Can an astronomer be accused of narrowness of vision because sometimes he may be found looking through the telescope which covers a limited field and is studying with especial care a small area of the heavens? Which of us can tell of the boundless space and the countless worlds that are opened up by these seemingly narrow studies? The observer collects his data, applies the laws of physical science as at present set forth, formulates and proves new laws, and opens up and argues on a world so utterly beyond us that his facts to those uninitiated read like the wildest fiction, and his descriptions like poetry and romance.

It would be a waste of your time were I to attempt to trace the history of fermentation, of putrefaction, of septic conditions and of the relation of bacteria to certain diseases, but it may perhaps be of advantage to insist that there has been a continuous evolution and extension of our theories in regard to the nature of the action and interaction of bacteria on the tissues and organs of the human body. First, there was the mechanical theory, in which it was maintained that death of the host was due to the impaction of groups of micro-organisms in the capillary vessels; then came the theory that these organisms used up the oxygen so rapidly that the tissues received an imperfect supply and somatic death ensued. Both of these may be partial explanations, but we have now presented to us quite different explanations. The administration of phosphorus is followed by grave changes in the tissues, and fatty degeneration occurs—how this is brought about it is difficult to say; similar degenerations are found in certain diseases set up by micro-organisms. Do such organisms, then, when introduced into the body, act directly by taking up and using for their own purposes the oxygen which would otherwise be applied to the nutrition of the tissues? This appears to be very unlikely. Do they attack the tissues directly, making their way into the substance, and so devitalising them that they are unable to perform their proper functions? Do the products formed by these organisms act directly on the cells, and interfere with their functional activity, causing direct devitalisation and degeneration of the protoplasm? Do the cells, when called upon to perform extra work in getting rid of these organisms or of their products—both of which must be looked upon as foreign bodies—undergo such excessive stimulation that the supply of oxygen is not equal to the demand, and the functional activity of the cells being in excess of their facilities for nutrition, their protoplasm then undergoing changes described as cloudy swelling, which in turn are followed by fatty degeneration just as in phosphorus poisoning? At one time it would have been deemed impossible to answer these questions; but as the study of the chemistry of bacteria has been utilised, our information on these points has become more and more definite, and as this definite information has been obtained, it has become possible to indicate some at least of the processes that are going on in certain of the specific infective diseases, and to draw inferences, some of which, however, have still to be put to the proof, as to the methods to be adopted in waging war against bacteria. One of the most important outcomes of the study of the relations of bacteria to disease is that we have now a pathological chemistry which, though still in its infancy, has a great future. Hitherto physiological chemistry has merely been elaborated and extended in order that it might be applied to the examination of certain products and excretions met with as the result of diseased conditions of various organs; but beyond enabling us to make search for slightly modified physiological products, this physiological chemistry has helped us but little.

The influence that bacteriology has had on medicine and surgery is best appreciated when some special process or condition is followed in its etiology, progress and determination; for example, the study of bacteriology has revolutionised our conception of the whole subject of inflammation, and has enabled us to bring into harmony theories and interpretations of facts which hitherto have appeared to be diametrically opposed to one another. Virchow's observations on the changes in the fixed and parenchymatous cells were supposed to clash with those processes of emigration of leucocytes and changes in the walls of the vessels set forth by Wharton Jones, Waller, and Cohnheim and their disciples. A battle royal waged between those who held that there could be no inflammation without vascular phenomena and those who maintained that these vascular phenomena were merely secondary events. In connexion with this subject Metchnikoff has pointed out that in the human subject and the higher animals, on which experiments were at first exclusively made, it is impossible to set up any definite irritative changes without calling to our aid traumatism or some form of chemical irritation; and also that in such experimental subjects even the tissues which in a normal condition are extra-vascular have, under the slightest irritation, a tendency to return to their embryonic vascularised condition. It was then found that certain bacteria when introduced into the tissues had the power of setting up rapid but easily followed inflammatory changes; and, lastly, the pathologist and the zoologist have combined to ascertain whether changes comparable to those set up in inflammation could be set up either by bacteria or through their irritant products, when brought in contact with lower unicellar organisms or with simple organisms in which no bloodvessels are ever developed, and another advance was made. Roser (quoted by Metchnikoff) maintains that inflammation is a disease due to infection by microbes and that the phenomena observed in repair are really the result of inflammation, or rather that they constitute those processes that end in resolution or the cure of inflammation itself. At one time such a theory would have been received with ridicule, and even now it is impossible to prove that inflammation is in all cases due to the presence of micro-organisms or their products.

It is only by a careful study of the processes described as occurring in lower organisms that we can gain any accurate conception of the differences in the processes set up by mechanical injury and those induced by the presence of micro-organisms. But we have now undoubtedly come to look upon inflammation as only one of a series of changes, all of which work towards a definite end: first, the getting rid of foreign bodies, whether organic or inorganic, whose presence might exert a deleterious influence on the tissues in which they are lodged; and, second, the repair of the breach that has been left at the point at which these foreign bodies have entered or been extruded.

The soluble products derived from pure cultures of micro-organisms are now known to be composed of a large number of different substances, to isolate which various attempts—many of them unsuccessful—have from time to time been made. None have been more successful than those carried on in this country by Burdon Sanderson, Sidney Martin, Halliburton, Brunton and MacFadyean, R. W. Philip, Hankin, Ruffer, Crookshank and Herroun, William Hunter, Cartwright Wood and others whose work, though not so frequently referred to, is still of great value To no one was this fact more evident than to one whose loss to pathology we have now cause to deplore. I refer to Sir William Aitken, whose death deprives the profession of one whose greatest concern it was to advance and encourage the study of pathological chemistry—especially in the sense in which we are now using the term—amongst his followers. His address delivered before the Pathological Section of the Association at the meeting held in Glasgow was full of suggestion and of the results of research. He had grasped the true value of the subject, and although in recent years, owing to failing health, he had been unable to carry on original research himself, he was still able to leave the imprint of his mind on a subject the welfare of which he had so near at heart by the encouragement that he gave to younger men, both by his advice and by the enthusiasm which he still retained with his ripening experience. Another who had already done work at this subject, but who gave promise of much greater things, Dr. H. J. Tylden, whom many of us delighted to have as a friend and collaborator, has been cut off when his work still appeared to have been but begun. Dr. Tylden has gone, but the remembrance of his energy, cheerfulness and determination will remain as a help and stimulus to all who knew him and appreciated these features in his character. In order that we may focus more accurately the nature of the work which has been done in connexion with bacteriology let us confine our attention to a single disease—diphtheria—in which, as the result of the use of bacteriological and chemical methods in its study, we can now recognise with a moderate degree of certainty, not only that we have to do with a specific organism, but also how this organism acts. Loeffler, who first made pure cultures of the diphtheria bacillus, originally described by Klebs, found that, after removing the microbe from the liquid nutrient culture medium, by passing it through a cylindrical porcelain filter and injecting the filtrate into a guinea-pig he was able to determine not only the same kind of local reaction that was obtained when the organism itself was introduced into the subcutaneous tissue, but also those paralytic symptoms so characteristic of the later stages of diphtheria. Then by extracting with a watery solution of glycerine, filtering, and dropping the filtrate into absolute alcohol he obtained a flocculent precipitate, which could be washed and re-washed with alcohol without passing into solution. This substance, readily soluble in water, still retained its power of setting up distinct local reaction after being washed, dissolved, re-precipitated, and again dissolved. Roux and Yersin, accepting Loeffler's statement that the poisonous material appeared to be a ferment-like body, repeated and extended his experiments. They made observations on the nature of the swelling set up at the point of inoculation by the organisms or by the poisons; they noted that, although there might be congestion and effusion into the serous cavities, evidences of fatty degeneration of the liver and kidney, and characteristic diphtheritic paralysis, no organisms could be found beyond the seat of inoculation. From this they argued that the poison formed at the seat of inoculation must be diffused by the lymphatics and bloodvessels into every part of of the body; that it might attack the nervous and muscular tissues, especially apparently the peripheral nerves, so giving rise to degenerative changes in them and in those tissues which appear to be involved in the process of conversion, secretion, and excretion of the poisonous substances. These observations were entirely in accord with clinical experience. The degenerations that are met with in the kidney and in the liver in cases of diphtheritic animals are essentially similar to those found in children who have succumbed to diphtheria, whilst the symptoms of peripheral paralysis and the changes in the nerves appear in the two cases to correspond in the most minute features. These observers were convinced that it was some special part of the products of the diphtheria bacillus that gave rise to these symptoms, and they, after various experiments, came to the conclusion that the active substance was not actually precipitated by the alcohol, but that it was entangled and carried down by the alcoholic precipitate.

Sidney Martin, going a step further, succeeded in separating certain substances, each of which, appeared to exert a definite effect on certain tissues and functions, and to give rise to special symptoms and distinct pathological changes. He compared their physiological actions with those of similar or allied substances obtained from anthrax patients and cultures or from cases of ulcerative endocarditis and tetanus, and found that the albumoses—intermediate products between non-dialysable albumens and dialysable peptones, substances, comparable as regards their structure and chemical reactions to those formed during the process of peptic digestion, could be separated not only from the membrane of diphtheritic patients, but also from the spleen and blood of the same patients, and from pure artificial cultures of the Klebs-Loeffler organism as cultivated by Klein and himself, and that they produced very definite local effects when injected subcutaneously—a condition that was usually accompanied by marked rise of temperature, paralysis, fatty degeneration of certain of the peripheral nerves—both motor and sensory—of the heart muscle and in a minor degree of certain other organs. These features were observable even when a single dose only was given, but were much more marked when small but oft-repeated doses were exhibited. The marked wasting and degeneration, which, in many cases appears to have been progressive and continuous, indicates that we have here to do with a direct poisonous action of the albumoses on the protoplasm of the tissues that they specially affect. Martin, who had previously described a powerful alkaloid or organic base in the products of the bacillus anthracis and in the blood and organs of anthrax patients, was naturally led to look for a similar substance in the diphtheria products; but here, as if to accentuate the difference that may exist between the poisonous substances produced by two different organisms, he found not an organic base, but a substance which he speaks of as an organic acid, as, although it was separable by the same processes as those used to isolate the base or alkaloid, it was found to have the characters of an acid. This organic acid had, however, the same—but markedly feebler—physiological action as the albumose, also giving rise to nerve degeneration.

In the diphtheritic membrane where—as in ulcerative endocarditis—the organism is growing on coagulated fibrin, a substance which is readily digested by and prepared for the nutrition of the organisms found in these diseases, albumoses are always found accompanied by an extremely virulent substance entangled in the proteid of the membrane, and precipitated by alcohol. This substance is similar in all respects to the ferment-like body described by Roux and Yersin. It is attenuated by heat, destroyed by boiling, and is characterised by the same (but more intense) physiological actions as the albumose and the organic acid, extremely minute doses producing very grave symptoms. Diphtheria, then, is entirely dependent for its specific symptoms on the diphtheria bacillus, experiment corroborating clinical observation in a most remarkable manner. This bacillus does not readily attack healthy individuals, but where there is slight ulceration of the throat or slight fibrinous exudation on the surface of the tonsils or the posterior surface of the velum palati, diphtheria often makes its appearance. Sometimes the exudation appears to be associated with the local action of the diphtheria bacillus itself, but usually the diphtheritic process appears to be grafted on small patches of ulceration and exudations. Experiment offers the explanation of this fact. The diphtheria bacillus does not appear to have a very marked power of attacking healthy mucous membrane; but when it finds a nidus in devitalised cells and coagulated fibrin, it is able to produce its special secretion or "enzyme," part of which acting on the fibrin, just as the enzyme met with in the stomach acts on food, rapidly transforms the insoluble and undialysable fibrin into soluble albumoses, some of which in turn are utilised for the nutrition of the micro-organism, whilst the remainder of the enzyme and the products of its action on the fibrin, absorbed by the lymphatics and blood-vessels, are carried into the system, where they act on the tissues and organs already mentioned, and, after being broken down into lower molecular combinations, are excreted. Before, however, we can accept this ferment-like body as an enzyme, the power of conversion of a large quantity of proteid must be more definitely proved. It is to the presence of these three sets of products that the symptoms of diphtheria and the changes met with in the tissues are due, and, as Martin points out, all three sets of poisonous substances may be obtained from pure cultures of the specific diphtheritic organism. In diphtheria, then, the bacillus is the primary infective agent. It, as a result of its vital activity, produces a powerful enzyme—Martin's secondary infective agent. Part of this enzyme, acting locally on the coagulated fibrin on which the organism is subsisting, converts it into various soluble products known as albumoses; some of the enzyme, being absorbed, continues the process of conversion in those tissues and organs in which it is allowed to remain long enough in contact with the proteids contained in the fluids of the body. This conversion, as Martin indicates, is specially well marked in the spleen, through the spaces of which the blood passes extremely slowly, so that it is allowed to remain in contact with the enzyme for some time, during which the albumoses are broken down into much less complex chemical substances, the most important of these in diphtheria being the organic acid, whilst in anthrax it is an alkaloid or organic base, the less complex organic acid being less virulent than the albumose, whilst those bodies of still less complex molecular constitution appear to be little more noxious than ordinary effete products.

The semi-final product of the bacillus of anthrax is, however, the most active cause of death, the alkaloid exerting a far more powerful physiological action than the intermediate albumoses which in diphtheria act so much more energetically. It is interesting to note how the definite changes set up by these poisons correspond to those set up by inorganic poisons, such as phosphorus, antimony and by some of the organic compounds which induce fatty degeneration through a direct action on the protoplasm, which—unable to obtain extra-cellular material to carry on its functions under increased stimulation—has to fall back, as it were, on its own protoplasm, which is rapidly converted from proteid into fatty matter. Here, then, with the protoplasm overstimulated and wasted, and with the products of the micro-organism still present in the blood, the process of wasting becomes progressive; owing to the previous wasting normal stimulation is now excessive; the degeneration may go on even after the poison has been removed, and ultimately the patient may die of failure of certain organs when all danger from the direct action of the poison appears to have passed by. We now know that in the case of the microbes of suppuration, hog cholera, tetanus, tubercle and some other diseases the poison is actually combined with the protoplasm of the micro-organism, and it is quite possible that in these cases of "marasmus," or progressive wasting, the toxine may be given up for long after the organisms themselves are dead, and thus may keep up well-marked irritation and stimulation of the protoplasm; the condition of "marasmus" continuing after the microbes are dead, and therefore—as was at one time supposed—innocuous. Bacteriological chemistry thus supplies another diagnostic factor in the detection of specific infective disorders. Martin points out that to Koch's four cardinal rules a fifth may be added—that is, that the secondary infective agent, the chemical poison separable from the tissues in the natural disease, should exert a definite physiological action, and that this poison should be similar, both chemically and physiologically, to the products obtained from a pure artificial culture of the primary infective agent—the micro-organism. Specific chemical differences may not always be present, but by combining what we know of the chemistry of these products with their physiological or pathological action we may still be able to determine how far a disease is specific, and how far, therefore, it is due to the presence of a primary infective agent. By the assistance of the above factor it may be possible to unravel the etiology of certain disorders which up to the present have defied the most pertinacious efforts of the pathologist and bacteriologist. It is not within the reach of everyone engaged in general practice to make chemical examinations; though, from the lucid way in which some of our recent workers have set forth their methods, it is a comparatively easy matter to carry on the first stages of the processes from which point the expert may continue the research. It is possible, however, as Roux and Yersin have pointed out, for everyone engaged in the attendance on patients in whom the presence of diphtheria is suspected to settle the question for themselves, and to gain information, not only for their own guidance in the treatment of the case, but also for the use of the medical officer of health, whose duty is often rendered both difficult and unpleasant, where any doubt as to diagnosis in such cases exists. Roux and Yersin find that if they remove part of the diphtheritic false membrane by means of a platinum needle flattened at the end, to form a kind of spatula, pass the same needle without recharging over the surface of a series of layers of specially prepared blood serum, and incubate at from 33° to 35° C., the diphtheria bacillus is the only one of the commoner micro-organisms that makes its appearance within twenty hours. Colonies visible to the naked eye as small rounded greyish-white points (the centre of which, owing to the somewhat greater thickness, is more opaque than the periphery) are then seen. So rapid is the further growth of these colonies that they are large, well-developed discs before any other organisms form colonies at all visible to the naked eye; from these pure cultures may be readily obtained, and may be examined at once or sent to some expert bacteriologist. The appearance and rapidity of the growth alone are quite sufficient to justify the medical attendant of the case in deciding that he is dealing with diphtheria, information which cannot be obtained by ordinary methods of diagnosis, especially in those very doubtful cases where the patches are comparatively small and ill-defined. Quite recently Sahkaroff has utilised the boiled white of egg as a culture medium for this diagnostic purpose. He takes a boiled egg, carefully removes half the shell, and with a knife that has previously been heated cuts from the surface small strips just large enough to go into a test tube, which has first been sterilised by heat in the following manner. Put two-thirds of an inch of water into a test tube, plug the opening with cotton wool, and allow to boil briskly over a spirit lamp or Bunsen flame. As soon as a little more than half of the water has boiled away, put aside to cool; the egg is then placed in the tube. Cultures are made as on the serum, and incubated at from 35° to 38° C., and at the end of twenty-four hours small greyish growths, from which cultures or cover-glass preparations may be made, appear on the glistening surface of the coagulated albumen. This process may not be quite so accurate as the serum method, but it is so easy to carry out that it should prove invaluable as a diagnostic aid in doubtful cases of diphtheria.

I should here like to suggest that the Association for the Advancement of Medical Research, which has already done such valuable work, not only in encouraging but also in controlling research might undertake to assist in this matter. If properly supported by the profession it might supply media of various kinds to those who wish to engage in this kind of work, for, although it is entirely a matter of money at present, it cannot but be felt that a small subscription (if a large number of members of the profession would take this in hand) would be ample to enable such a scheme to be carried out; and, moreover, although I do not see how the Conjoint Colleges could be expected to do more than they have done in facilitating research in this country, I am convinced (though I have not broached the subject) that if any well-matured plan, backed by sufficient funds to pay for a couple of young men who with slight training in experimental work would be able to prepare and do the rough examination of material, were put before them, they would not be unwilling to place some accommodation at the disposal of the Society in order that the scheme might have a fair chance of proving a success. A retaining fee might be paid to certain experts, whose duty it should be to give reports on specially interesting cases. At present there is no organisation or centralisation; specimens, badly preserved, are sent up in a haphazard way, accompanied or followed by a note to the effect that it is hoped that the person to whom they are sent will examine and send a report. If the expert happens to be interested in the special subject he will make a very thorough examination and will forward a report sooner or later; if he is not, the chances are ten to one that the specimen will be left until he has sufficient leisure after he has done his own proper work, and as young men of our profession are as a rule not endowed with too much of the good things of this world, they are usually so occupied with their own investigations and with trying to make both ends meet, that the examination is put off to the Greek kalends. If, however, men were specially retained and were paid a moderate fee for each investigation, they would be eager to do the work and would feel that they were not neglecting their own interest or the interests of those dependent upon them, whilst those for whom the examinations are made would have far less reluctance in sending specimens for examination were they but assured that they were taking up no one's time without making some adequate return. Not only so, but an investigation for which a fee is charged is always of more value both to practitioner and patient than an examination—done in the leisure moments of a friend or acquaintance—for which no charge is made. I should not have mentioned this matter did I not believe that pathology suffers very greatly from the want of some such organised plan of work; it is not a matter which any private individual can take up, but it is one that if taken up by the Association mentioned—especially if backed up by a grant from this Association—might prove of enormous value to the profession at large. It would, of course, be necessary to make a fixed charge for each examination, the charge varying with the nature of the work; but it might be that every subscriber of a guinea and upwards per annum should have the privilege of having his specimens examined for half the tariff price.

I had intended to deal to-day with the subject of anti-toxines—that is, substances which are said to be formed when bacteria or their poisonous projects are injected into the fluids or tissues of an animal, and which are supposed to be the important factors, not in the production of immunity, but in the actual cure of specific infective diseases. I find, however, that Sternberg, in a recent address on the practical results of bacteriological researches,[1] goes into this matter very thoroughly, and gives a short summary of the results obtained in numerous experiments with anthrax, rabies, diphtheria, tetanus, croupous pneumonia, swine erysipelas, and also with ricin (the active poisonous principle in the castor-oil bean), and abrin (the similar product of the jequirity bean), all of which are brought forward to support the theory that wherever a poison is developed in the body an anti-toxine—a substance which is supposed to neutralise the effect of a poison—is rapidly developed, with the result that neither specific organisms nor their poisons can continue to have any effect on the animal host. Many of the experiments made by different observers who have laid claim to the presence of these anti-toxines have failed to give results in the hands of other workers. It cannot, merely on this ground, be assumed that the first results are inaccurate, for all who have experimented with bacteria know only too well that the results they have been able to obtain have differed so greatly when the conditions of the experiment have been only slightly modified, that the personal element of the equation in these problems, in which we are to a certain extent groping in the dark, must necessarily be a most important factor. On the other hand, it should be distinctly understood that until the crucial experiments have been repeated time after time, in different schools, and under known conditions by all who are determined to obtain reliable data, we are not justified in accepting them as proved.

Allowing that many of the experiments are perfectly trustworthy the results obtained by various workers at different diseases have been so contradictory that it may well be asked what is the explanation of such divergences. In the first place there is not a sufficiently marked line of demarcation drawn between the curative action of the anti-toxines and the production of immunity; the two are perfectly distinct, though they are too frequently inextricably confounded in respect to the interpretation of experiments. For example, it is quite possible that an anti-toxine when introduced either into a pure culture of a specific organism or in the body of an animal in which this organism is growing may prevent or neutralise the action of the toxine formed by this same organism, whilst it may not exert the slightest influence in inducing an increased insusceptibility to the attack of the same organism; on the other hand, it is found, as Metchnikoff has recently demonstrated for hog cholera, that the serum from an animal vaccinated against this disease (which is then supposed to contain the anti-toxine), just as in the case of serum from an unvaccinated animal, allows of a most luxuriant growth of the hog cholera organism, and that it certainly exerts no anti-toxic action when injected into an animal suffering from the disease. But when the serum from a vaccinated animal is injected from time to time into the circulation of a non-vaccinated animal, it is found to confer, just as Martin found on injecting anthrax blood similarly treated, a very marked insusceptibility to the specific disease, whilst the serum of animals not previously rendered immune when injected into non-vaccinated animals exerts no protective influence, the disease being developed just as in animals previously unexperimented upon.

If now we consider that this serum from vaccinated animals serves as an excellent cultivating medium for the growth of the micro-organism of hog cholera, as, too, we find that when sterilised products of a culture of hog cholera bacillus or the blood taken from an immune animal do not interfere with the action of the special poison when introduced simultaneously into the circulation, it must be concluded that such sterile product does not act directly either on the bacillus or on the poison produced by the bacillus; on the other hand, as this same substance introduced into the circulation of the animal undoubtedly exerts a certain protective influence we are compelled to the conclusion that this serum—or rather some body present in it—must act directly on the protoplasm of the cells of the body. Metschnikoff argues that it must act as a stimulant, for it is generally accepted that there is a definite protection for most specific diseases. It is of course not necessary to assume that only the migratory leucocytes are so modified, for although the leucocytes, on account of their motility and powers of migration and emigration, are first called upon to resist the attacks of invading organisms and their products, all the cells—especially those in contact with the circulating fluids—must be modified as they come in contact with the poisons carried in these fluids, and thus be gradually inured to carry on their work, even under extremely disadvantageous conditions; for there can be little doubt that these other cells have frequently to help, under special stimulation, to join issue with the micro-organisms and their products that have passed beyond the sphere of operation of the leucocytes at the point where the primary invasion occurs. It is to this ultimate modification of the protoplasm of the cells of the body under the influence of organic or inorganic therapeutic agents that we must look for our future triumphs in the treatment of specific disease where vaccination has not been resorted to, or has failed. Of such direct action on protoplasm there are only two or three examples, but there can be little doubt that quinine and arsenic in malaria, and mercury and perhaps iodide of potassium in syphilis, act somewhat in this manner. Should it be definitely proved that anti-toxines are formed as the result of the action of certain bacteria on the tissues and fluids of the body, an anti-toxic method of treatment—as at present within our reach—could prove of little practical value, for in the cases where any definite results have been obtained very large quantities of the blood or serum from immunised animals have been used in order to obtain the results described, and it is difficult to imagine how it would be possible to obtain for our purpose sufficient of the specific anti-toxines from living animals, however vaccinated, whilst the risks to patients would be so great that such treatment would be unjustifiable. We may, however, still hope for something better, especially when in the British Institute of Preventive Medicine men can devote their whole time and energy to the study and preparation of vaccines and antitoxines, their nature, actions and doses. Such work is too difficult, and the results at stake are too important, to be left to share with other duties the attention of any man or body of men.

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[1] International Journal of the Medical Sciences, July, 1892.

There is one point of view from which we must look at these chemical products quite apart from the organisms that produce them. One of the theories as to the effect of such chemical poisons in protecting an animal against the attacks of any but the most virulent organisms or against enormous doses of less virulent organisms must, so far as our knowledge goes, be based on what may be called the acclimatisation theory, according to which various cells and tissues of the body become so accustomed to the presence of certain poisons when administered in small but gradually increasing quantities, at definite intervals, that when large doses are actually formed within the body the tissue cells are still able to react, to carry on their phagocytic functions, and thus to treat pathogenic organisms as mere saprophytes. Such a consideration as this would at present lead us to classify the methods of inoculation into at least two groups: those where the tissues have to become accustomed to the presence of a poison only, as in diphtheria and endocarditis, in both of which the poison can be developed only at the surface of the body, where fibrin or some similar substance is present but is so far removed from the action of the cells that the organism is able to grow and produce its special poison, the local tissues being directly attacked by both bacilli and poison, but the general tissues having the poison only carried to them. Tetanus might also be included in this group, though the conditions are somewhat different. Here it may be possible so to acclimatise the tissues (as also in the case of hydrophobia) that the poison which, under ordinary accidental conditions, finds its way into a wound would have practically no effect, in which case the organisms introduced at the same time would also be dealt with by the tissues. In the case of diphtheria and infective endocarditis, where an enormous quantity of poison may be formed, and where, as we know, products administered experimentally have devitalised the tissues instead of increasing their resistance, the hope of inoculation proving useful does not seem to be very bright, though it may be that the introduction of exceedingly minute doses at certain definite intervals may confer a certain degree of protection. Where, however, pathogenic organisms are able to make their way into the lymphatics and bloodvessels, the prospects of obtaining good results from inoculation are much more favourable, as, if once an animal can become accustomed to the presence of the poison, the microbe itself can have little chance with the leucocytes and the tissues.

The two processes—the anti-toxic and immunisation by specific acclimatisation—are perfectly distinct from those on which Koch's treatment of tuberculosis is said to depend for its success. If a certain quantity of a sufficiently dilute escharotic be injected under the skin slight inflammation accompanied by exudation of leucocytes, proliferation of the connective tissue cells and localised formation of new connective tissue, is set up. If, however, a first dose be followed by a second, a second by a third larger and more concentrated dose, the tissues may undergo necrotic changes, a slough is formed, and what is called reaction takes place; and the slough gradually separates from the reacting tissues in which connective tissue is formed. This is exactly what takes place when tuberculin is administered; the tuberculin alone is not sufficient to cause any serious damage to the tissues, but along with the poison that is formed by the tubercle bacilli in the areas affected, it intensifies the necrotic action associated with tubercle, especially in the immediate neighbourhood of the bacilli, and in this way the partially devitalised or dead tissues may be got rid of more rapidly by sloughing than in cases in which no treatment is attempted. Sad experience, however, has taught us that the increased dose of the poison so acts on the tissue in the zone some distance from the area of actual sloughing that in certain cases, at any rate, it becomes much more susceptible to the attacks of the tubercle bacilli, and thus the disease seems to spread more rapidly after the administration of tuberculin; and although it is possible, though certainly not yet proved or even probable, that very minute doses of tuberculin may have a salutary and perhaps a protective influence as regards the tissues, the clinical results up to the present have not been sufficiently satisfactory to encourage the hope that we have in tuberculin a substance that will exert any permanent favourable influence on the course of an attack of tuberculosis.

It is fitting that at a meeting of medical men whose aim is the advancement of science some slight attempt should be made to show that one of the greatest advances in the history of bacteriology has been initiated by members of this Association. It is only recently that in again going over the literature of anthrax I have come to a knowledge of certain facts, and although I was constantly associated for eight years with my friend and master Professor Greenfield, he never once mentioned a claim to what I now look upon as justly his due in connexion with the preventive inoculation of anthrax.

Duguid, as reported by Burdon Sanderson in 1880, had observed, in 1878, that when splenic fever or anthrax is transmitted by inoculation from cattle to small rodents, such as young guinea-pigs, and then back again to cattle, the character of the disease so transmitted is much milder than that of the original disease acquired in the ordinary way; the rodents die but the bovine animals inoculated with their blood or with the pulp of their diseased spleens recover. There seemed to be little doubt at the time these experiments were made that the question as to the attenuating effect of passing the bacillus anthracis from a cow to a guinea-pig had been settled, though from the fact that cattle appear to be much less susceptible to direct inoculation than they are to the bacillus when introduced by the alimentary tract, doubts have been expressed as to the real value of these experiments, as although the same anthrax when passed through a series of guinea-pigs appeared to have its virulence diminished, there was not sufficient proof given that the attenuating influence which appeared to exist extended to those cases where feeding experiments were conducted. These doubts, however, cannot detract from the value of the observations made, as they were, at so early a period. In view of Pasteur's success in the production of an attenuation of the microbe of fowl cholera this appeared to give promise of successful results in the production of immunity against the attacks of anthrax. In May, 1880, Greenfield, who at the Brown Institution had made careful cultivation and inoculation experiments on the anthrax bacillus, announced in "An Inquiry into the Nature, Cause and Prevention of Splenic Fever, Quarter Evil and other Diseases,"[2] that he had been able by artificial means to prepare a protective anthrax virus. After referring to Duguid's experiments and the results obtained by the direct method of inoculation, Greenfield says: "Seeing that the object of my experiments was to inoculate bovine animals with a virus modified by its transmission through the guinea-pig, it may appear that it would be desirable in order to have the full effect of such modification either to inoculate directly from the guinea-pig or from a cultivation not far removed from it. But there would be many practical advantages if it were found that having once transmitted the virus through one guinea-pig or a series of them, its modified property was subsequently maintained in the artificial cultivation. I have therefore kept this in view, and have tested the effect of successive generations of the artificially prepared poison." He further says: "It would have been a great advantage if I had been able to test side by side with these cultivations derived from the guinea-pig other cultivations derived direct from a bovine animal. But in every case cultivations from the latter have failed owing to the commencement of decomposition in the material sent to us."

Using an infusion of the hay bacillus or aqueous humour of the sheep or ox—more especially the latter—Greenfield made his cultivations in closed glass tubes about a quarter of an inch in diameter, drawn out at both ends to a fine capillary tube and sealed. Those tubes, about an inch in length and half filled with cultivating fluid, were carefully inoculated with a capillary tube containing a minute quantity of the blood, or only rubbed on the spleen of the animal which had died of anthrax, were sealed immediately after inoculation and kept at a temperature of about 35° C. After carefully describing five experiments made on cattle and sheep, in which the results were certainly most satisfactory, Greenfield says: "It must be evident to anyone who considers the matter that there are many points which must be determined by experiments of a much more extensive character than any I am able to carry out at the Brown Institution. If, as I hope, it should prove on further experiment that the earlier results are confirmed and that the inoculation of bovine animals with the bacillus anthracis, cultivated artificially after transmission through guinea-pigs or some other animal, serves to render bovine animals totally or partially insusceptible to the disease when transmitted by the usual channels, one great step will have been taken. But there will yet remain the questions: Is the mortality from inoculation by this method a high one, or do even a small percentage of animals die? What are the conditions under which inoculations may be best performed? Does age exercise an important influence in the fatality? Lastly, for how long a period is protection from attack conferred?" "To settle these points the inoculation of a large number of animals will be necessary, and their subsequent exposure to sources of contagion at favourable periods." These facts and statements, taken in conjunction with the observations published in the Proceedings of the Royal Society for June of the same year, make it evident that in his serial cultivation experiments, during which he obtained attenuation of the virus, Greenfield's object was to obtain a vaccine which, when inoculated, would induce a milder but protective attack of the disease with which he was dealing; and whatever fault may now be found with the methods used—and it must be remembered that at this period bacteriology was an almost new science, and the methods were only in process of development—he obtained the results at which he was aiming. It has been stated that his results could not be relied upon; but these statements are not based on his experiments, or on those carried on in the way that he described, but on various modified experiments. I have therefore thought it necessary to repeat a number of his experiments, following his directions as accurately as possible; and as a result, although they are not yet completed, I have found that although I may not be able to agree with all the interpretations put on the observations, the main facts themselves are unassailable, especially as regards the modification of the appearance of the organism under cultivation in the media mentioned — modifications that have been said not to exist. At the time that Greenfield was obtaining his results with cattle Toussaint was working away on young dogs and sheep, and in July, 1880, he described the results that he had obtained on these animals, and a little later he gave his method of preparing the attenuated virus with which he protected animals against the action of a virulent anthrax. In connexion with Toussaint's experiments Pasteur, than whom few men have been less rash in drawing conclusions, was satisfied that his method of preparing vaccine was valueless; but Roux, an exceedingly accurate and careful observer, and one of Pasteur's disciples, repeating the experiments, corroborated the results obtained by Toussaint; he found that his earlier experiments, published immediately after those of Greenfield, were to be relied upon, and that although the bacilli were destroyed at 55° C., the spores remained alive, and, what was more important, their virulence was attenuated.

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[2] Vol. xvi. of the Journal of the Royal Society of England. (I mention this paper because it was published rather earlier than the note in the Proceedings of the Royal Society, and because the evidence there given as to the success of this method is far more complete and satisfactory than that contained in the latter paper.)

Owing to the conditions under which scientific work must be carried on in this country, and to the comparatively slight interest that is taken in these matters by our wealthy classes generally, and owing to the restrictions that were placed upon the most necessary experiments, Greenfield was unable to test on a large scale the value of his observations, but he had laid the foundation of what was ultimately to become one of the greatest discoveries in modern medicine, and there can be little doubt that Wooldridge, in working out his admirable and epoch-making researches on protective inoculation, was following and extending these original researches carried on in the Brown Institution, where so much valuable work has from time to time been carried out. In stating this I am not detracting in the slightest degree from the brilliant work done by M. Pasteur, who, thanks to the wonderful results that he had previously obtained in other departments of research, was able to command the opportunities of carrying on his work on a most magnificent scale; and his results, published in May, 1881, may be said to be an edifice built on a triple foundation of his own work on fowl cholera, and that of Greenfield and Toussaint on anthrax; for although, as Pasteur pointed out, the earlier workers had not been able to eliminate many fallacies, theirs was the rough pioneer work which opened up a new country, cut rough and often circuitous roads, and made possible the advance of those who were to build up and elaborate the work that has since been and is still being done.

There is an old fable that when Truth was sent by the gods, owing to some mishap it fell from the clouds of Olympia to the hard, matter-of-fact world below, and was smashed into a thousand atoms. Not only had Truth been beautiful in itself, but the shattered fragments still retained so much beauty of form, colour and material that each became the desire of those amongst whom it fell. In the general scrimmage that ensued many took part, and some were successful, each bearing away in triumph his *small fragment*, he and his friends fondly imagining that it represented the whole beautiful image. Gentlemen, the first step towards reconstructing this image is for each one to acknowledge that his fragment is but part of a great whole; when this is done let each bring his own fragment, be it large or small, and submit it for examination and measurement, and to be fitted by *himself and by others*. From time to time men of deeper and wider views than ourselves, capable of fitting together not only their own fragments, but those of others that have been prepared to their hands, come forward, and the original form is being daily further and further outlined. We are now but gathering and combining the smaller fragments into larger pieces, and it may be that in this finite existence of ours we shall see the limbs or joints merely, but through the association and working together of many, all animated by the same desire, these smaller fragments will be gradually fitted together, so that even we, in our time, may gain some conception, however crude and imperfect, of the wonderful form of Truth as it left the gods.

A REPORT ON

THIRTY-SEVEN CASES OF TUBERCULOUS DISEASE OF THE HIP-JOINT,

FOR WHICH EXCISION OF THE JOINT WAS PERFORMED IN THIRTY-SIX CASES.

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(Concluded from p. 256.)

STATISTICS OF THE COMPLETED CASES.

FOR convenience of reference we have given below the statistics of these cases in a tabular form. We shall here deal with the main points more in detail.

1. *Period of healing.*—Primary union (including cases in which the tube track healed by granulation shortly after primary union of the rest of the wound) occurred in 11 out of the 17 cases. Of these, 4 remained permanently healed and had no secondary operations, and 4 others remained healed for more than a year after excision before recurrence occurred. In addition to these we may add 2 cases (T. S—— and J. A——) which also healed by primary union and remained healed for two years and one year and nine months respectively before recurrence, thus making a total of 10 cases which healed by primary union, and remained sound for a year or more. The date of first healing in the other cases was from three to fifteen months, as shown in the table. The period of final healing of course varies much according to the date of recurrence; this is given in each case in the table below.

2. *Recurrence of disease.*—In a total of 20 cases (including the 17 completed cases and 3 others which remained healed for more than a year after primary healing) recurrence of disease occurred in 16; in 9 of these further bone disease was found; in the others the bones were not further affected. In 5 cases there was only one secondary operation; in 5 cases there were two, in 3 cases three, in 2 cases four, and in 1 case five secondary operations. It will be seen by referring to the table that those cases which had most secondary operations performed were as a rule the cases in which further bone disease occurred.

3. *Real shortening.*—In the 17 complicated cases the actual shortening was *between 1 and 2 in.* in 9 cases, 2 in. in 5 cases, 2¼ in. in 1 case, 3 in. in 1 case, and 3½ in. in 1 case.

The average shortening is 1·85 in. In the 2 cases which have 3 in. shortening part of the trochanter was removed.

4. *Apparent shortening.*—This, as seen in the table, was as a rule less than the actual shortening, the difference being due to slight abduction of the limb, or to some compensatory curve of the spine. The average apparent shortening is 1·3 in.

5. *Condition of joint.*—In 2 cases there was immobility of the joint, in 4 cases there was scarcely any mobility, in the remaining 11 cases there was more or less free mobility.

STATISTICS SHOWING THE EFFECTS OF FLUSHING AND DRAINAGE OF THE JOINT.

We shall here endeavour to show what bearing these points have on the time of primary and final healing. Cases admitted with sinuses are not included.

1. *Flushing.*—The treatment was adopted in twelve excisions. Mr. Barker's flushing curette being as a rule the apparatus used. In these, primary union occurred in 7 cases. One case died from shock after the operation. The remaining 4 cases were healed in three and a half, four and a half, twelve, and six and a half months respectively. Four of the flushed cases had no recurrence of disease up to the time when last seen; one of the 4 cases is that which died of diphtheria; 3 other cases remained sound for thirteen, fifteen, and twenty months respectively before recurrence; the remaining 4 cases are as yet too recent to consider in regard to final healing. The effect of flushing is therefore favourable as regards the primary healing of the wound, 7 cases out of 12 having healed by primary union, whereas only 11 out of 25 healed by first intention when flushing was not resorted to. Recurrence of disease appears to occur frequently whatever method of treatment be adopted.

2. *Drainage.*—In order to consider the effect of drainage on the primary healing of the wound we may divide the cases into (*a*) those which were not drained, (*b*) those which were drained for from eighteen to forty-eight hours, (*c*) those which were drained for longer periods. As before, cases with sinuses are not included. Seven cases were not drained; of these, 5 healed by primary union. Eight cases were drained for from eighteen to forty-eight hours; of these, 6 healed by primary union. Thirteen cases were drained for periods varying from four days to several weeks; of these, 7 healed by primary union, with granulation of the tube track without suppuration. In short, healing by primary union occurred in 71·4 per cent. of cases not drained; in 75 per cent. of cases drained up to forty-eight hours; while 53 per cent. of cases drained for longer periods healed nearly by primary union. Cases therefore appear to heal almost equally well whether drained or not up to forty-eight hours, but there is a disadvantage in keeping up drainage for a longer period.

STATISTICS OF CASES WHICH HEALED BY PRIMARY UNION.

Of the 18 cases which healed by primary union, including those cases in which the tube track healed shortly afterwards by granulation without suppuration, in a clinical sense, 4 remained sound permanently and had no secondary operations; these cases were seen last two years and five months, two years, one year and eleven months, and twelve months respectively after excision. One other case remained sound up to the time it was last seen, but this was too early for the possibility of recurrence to be excluded. Six more cases remained sound for periods between one and two years. One case died early from an intercurrent affection. In the 12 cases in which recurrence took place there was further bone disease in only 5 cases. The table of these cases shows the date of recurrence after primary healing, the date of final healing, reckoned from the date of excision, and the number of secondary

TABLE OF CASES WHICH HEALED BY PRIMARY UNION.

—	Date of recurrence, reckoned from healing.	Date of final healing.	Number of secondary operations.	Drained or not.	Flushed or not.	Duration of disease before operation.
L. A.	3 weeks	13 weeks	1	0	0	1 year and 4 months
L. A.	0	—	0	0	0	1 year
G. P.	0	—	0	Drained 4 weeks	0	5 months
W. B.	0	—	0	Drained 24 hours	Flushed	2 years
E. T.	0	—	0	Drained 48 hours	Flushed	5 years
F. S.	0	—	0	Drained 36 hours	Flushed	2 years and 9 months
G. C.	0	—	0	Drained 48 hours	Flushed	5 months
E. M.	46 weeks	9 months	2	Drained 5 weeks	0	10 months
T. M.	2 months*	1 year and 11 months	3	0	0	9 months
C. K.	1 year and 6 months	1 year and 9 months	1	Drained 6½ weeks	0	2 years
C. R.	1 year and 10 months	3 years and 7 months	4	Drained	0	1 year
A. P.	1 year and 2 months*	1 year and 8 months	4	Drained	0	1 year
J. A.	1 year and 8 months*	—	1	Drained 18 hours	Flushed	2 years
T. S.	1 year and 11 months*	Not quite healed	2	0	0	1 year and 4 months
T. B.	6 months*	8 months	2	0	0	2 years
F. W.	8 months	Not quite healed	1	Drained 20 hours	Flushed	18 months
E. S.	1 year and 1 month	1 year and 3 months	1	Drained 9 days	Flushed	4 years
F. B.	4 weeks	—	1	Drained 4 weeks	0	1 year and 6 months

* Recurrence of bone disease.

TABLE OF COMPLETED CASES.

—	Duration of disease before operation.		Date of primary healing.		Date of recurrence.*		Date of final healing.		Number of secondary operations.	Real shortening.	Apparent shortening.	Condition of joint.	Length of time without splint.		Time when last seen			
															Since excision.		Since healing.	
	Yrs.	Mths.	Mths.	Wks.	Yrs.	Mths.	Yrs.	Mths.		Ins.	Ins.		Yrs.	Mths.	Yrs.	Mths.	Yrs.	Mths.
C. R.	1	—	—	8	1	10	3	7	4	2	½	Free mobility	—	6	5	3	1	11
R. B.	1	3	3	—	—	1	—	5	1	2	—	Free mobility	4	—	5	2	4	9
E. M.	—	10	—	2	6 wks.		—	9	2	2	1½	Firm union	2	6	4	4	3	7
T. M.	—	9	—	3	—	2†	1	11	3	1	1	Free mobility	—	8	3	4	1	6
A. P.	1	—	—	6	1	2†	1	8	4	1½	1½	Free mobility	—	11	3	4	1	8
W. B.	2	—	15	—	—	4†	—	15	2	2½	1½	Firm union	—	9	2	6	1	3
C. K.	2	—	—	2	1	6	1	9	1	1½	1	Firm union	1	—	2	6	—	9
L. A.	1	—	—	3	None		3 wks.		0	2	—	Free mobility	(?)		2	5	2	4
A. C.	2	6	8	—	—	3†	—	8	3	1½	1½	Firm union	—	9	2	5	1	9
L. A.	1	4	—	3	2 wks.		13 wks.		1	1½	—	Free mobility	(?)		2	1	1	10
G. P.	—	5	—	5	None		5 wks.		0	1½	1½	Firm union	—	11	2	—	1	11
C. N.	6 (?)	—	13	—	—	13†	—	3	5	3½	2	Free mobility	—	8	1	11	—	10
N. E.	1	6	—	11	—	6†	—	10	2	1	½	Free mobility	—	3	1	10	1	—
W. B.	2	—	—	4	None		4 wks.		0	1½	—	Firm union	—	4	1	10	1	9
E. S.	4	—	—	4	—	13	1	3	1	3	2½	Free mobility	—	8	1	9	—	6
M. B.	3	—	6	—	—	2	—	6	1	2	1½	Free mobility	—	3	1	6	1	—
F. S.	2	9	—	3	None		3 wks.		0	1½	1½	Mobility	1 week		1	—	—	11

* Date of recurrence is calculated from period of primary healing, except where there was recurrence before primary healing.
† Recurrence in bone.

operations. The final results in those cases which are completed will be found by referring to the table of completed cases. The following conclusions may be drawn:—1. The primary healing must have been fairly complete and by no means limited to the superficial tissues in the majority of the cases, for the hips appeared to be quite sound and the scars continued healthy for many months even in the cases where disease subsequently recurred. 2. That it is desirable to secure primary union if possible, not only in order to prevent the risks of septic suppuration, but also with a view to the better subsequent progress of the case. Fifteen of the cases are sufficiently advanced to be considered in regard to recurrence of the disease; 5, or one-third of them, had further disease of bone. With these may be contrasted 14 cases which did not heal by first intention; 7, or half of them, had further disease of bone.

COMPARATIVE RESULTS OF EARLY AND LATE OPERATIONS.

In order to elucidate this point we have studied 20 cases which were operated on more than a year ago, more recent cases being excluded; cases which died and those admitted with sinuses are also excluded. The duration of the disease before operation is stated in each case in the two tables, the one of cases which healed by primary union, the other of completed cases. By referring to the former table it will be seen that the duration has little if any influence on the primary healing, as the list includes cases of various durations, from five months up to five years. Also, by referring to both tables, it is difficult to show that the duration of disease has much bearing on the final results. It should, however, be borne in mind that whether the case had progressed slowly or rapidly the same indications for operation were observed—viz., the presence of a superficial abscess and extensive disease of the joint.

We believe that the cases recorded and analysed above afford an average sample of the results which are obtainable by the mode of treatment which was employed. The immediate mortality, however, we believe to be higher than it ought to be, and higher too than it would be found to be if a larger number of cases were analysed. The results, if considered from all points of view, appear to us to be much less encouraging than the advocates of the methods followed were led to anticipate would be the case. But, whilst making this admission, we feel that no other plan of treatment can offer better results in similar cases—similar not only in regard to the stage to which the disease had progressed, but similar also in regard to the social position of the patients.

THE ONTOGENY AND PHYLOGENY OF THE BREAST.

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SECTION I.—INTRODUCTORY.

THE mammæ are glandular organs destined to secrete milk for the nourishment of the young immediately after birth. Correlated with these important organs are other structural peculiarities, so that morphologists classify all animals having them in the same order under the name "mammalia." All such animals are viviparous; their young are brought forth naked, without any fœtal envelopes or stored-up nourishment. Hence they usually depend for very existence upon the ability of the mother to nourish and protect them.

The origin[1] of the mammæ is intimately connected with this helpless condition of the young. Both sexes of human beings, like all other mammalian animals, possess mammæ, but in males they are usually small and functionless. It is only in females that they develop into true milk-secreting organs. In this their perfect state, the mammæ must therefore be regarded as appertaining essentially to the female organisation. It is, however, certain that it was not always so. We must remember that the earliest and most primitive sexual relation was hermaphroditism, and that the separation of the sexes as they at present exist was only secondarily effected, by division of labour, in the gradual progress of evolution. Hence in every male we still find rudiments of female reproductive structures, and *vice versâ*. But it is chiefly in consequence of sexual selection that male animals differ so widely from their females, and that they tend to vary anatomically and pathologically in a different manner. Thus were developed the so-called "secondary sexual characters"; that is, those differences between individuals of opposite sexes which appear, not in the sexual organs themselves, but in other parts of the body, such as the beard of man and the breast of woman. It is certainly very remarkable that in every female all the secondary male characters, and in every male all the secondary female characters, exist in a latent state, ready to be evolved under certain conditions. Thus in men and male mammals the breasts occasionally attain a large size and secrete milk. To account for the existence of male mammæ Darwin[2] suggests that long after the progenitors of the whole mammalian order had ceased to be androgynous both sexes yielded milk, and that the males aided the females in suckling their offspring, but that afterwards, from some cause (as from the production of a smaller number of young), the males ceased to give this aid; disuse of the organs during maturity would lead to their being inactive, and this state would be transmitted to the males at the corresponding age. Curiously enough, the male mammæ are much less completely aborted than are the other female reproductive structures rudimentary in man. Having no use, the persistence of such structures is remarkable.

SECTION II.—ONTOGENY OF THE GLAND.

The human breasts (mammæ), like those of all other mammalia, are generally regarded as greatly enlarged and modified cutaneous sebaceous glands. The observations of Champneys[3] on the development of mammary functions by the axillary sebaceous glands of women during lactation, as well as those of Duval[4] on the nature of the secretion of the acinous glands of the areola under like conditions, show that the difference between sebum and milk is only one of degree. In all this it appears to me there is nothing to countenance the extraordinary view recently advanced, that in human beings highly specialised organs like mammæ and teeth, which have taken immense ages to attain their present degrees of perfection, can be suddenly evolved as "sports" from ordinary sebaceous glands and cutaneous epithelial processes respectively. I must protest against this assumption, which is a contravention of the fundamental principle of heredity; and as I have elsewhere shown,[5] the evidence on which it is based is altogether delusive. The question has arisen whether the mammæ is the homologue of a single sebaceous gland or of an aggregation of such glands. It appears to me that here we have but one reliable guide—viz., the ontogeny of the organ. Inasmuch as all observers are now agreed that the mamma is developed from but a single epithelial ingrowth, and that the form ultimately attained—in which the gland discharges by numerous ducts on the summit of the nipple—is due to secondary modification (kenogenesis). I am decidedly of the opinion that we must regard it as the homologue of but a single specialised sebaceous gland.

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[1] Mammalian animals are among the most highly organised and latest evolved. It was formerly thought that they came into existence at the commencement of the tertiary period; but it is now known that the leading types, as at present existing, were even then differentiated; and mammalian remains have since been found throughout almost the whole of the secondary or mesozoic rocks. As at present known mammals are completely isolated from all other groups of animals. Huxley believes we must go straight down to the amphibia for their nearest progenitors. According to Darwin (Descent of Man, 1879, p. 165) the descent of man from the lowest mammalia is through the ancient Monotremata to the ancient Marsupials, and from these to the early progenitors of the placental mammals. Thence to the Lemuridæ and through these to the Simiadæ. The latter then branched off into two great stems: from the catarhine or old-world division, of which—after they had diverged from the new-world division—man, at a late period, proceeded. The time at which this took place is still a matter of controversy. It is, however, much more remote than historians and chronologists have led us to believe. The oldest of such records prove that civilised communities and large states flourished in Egypt and some parts of Asia, prior to 4000 B.C. In these countries, therefore, man must have had far higher antiquity than this. In Europe his presence can be traced in this way only to about 2000 to 3000 B.C. Geologists have, however, proved his existence at much more remote periods. Geikie says (Prehistoric Europe, p. 2 et seq.): "We know now that many long centuries before the advent of the Romans our islands were occupied by a people whose knives and swords were fashioned of bronze; we know further that this people was preceded by a race or races ignorant of the use of metals, who lived during several considerable changes of climate and oscillations of the sea level; and we have also learned that at a still more remote period our country and the neighbouring parts of Europe were tenanted by tribes of yet ruder barbarians, during whose occupancy several extensive geological mutations occurred." Prestwich's opinion on the subject is (Antiquity of Man, vol. ii. 1888, p. 534) given thus: "If we can be allowed to form a rough approximate estimate—on data as yet very insufficient and subject to correction—we may give to Paleolithic man no greater antiquity than perhaps about 20,000 to 30,000 years; while should he be restricted to the so-called post-glacial period, this antiquity need not go further back than from 10,000 to 15,000 years before the time of neolithic man. The extreme antiquity of even 80,000 years (not to speak of 150,000 to 200,000 years) assigned to man, seems to me based on very inappreciable evidence."

[2] Descent of Man, 1870, p. 163.

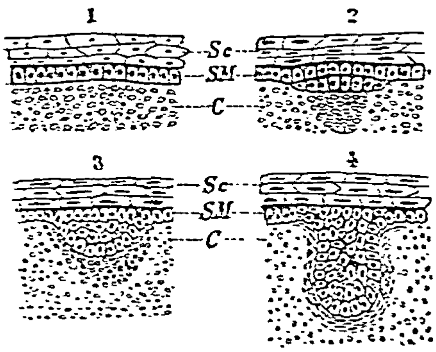
[3] The Medical and Chirurgical Transactions, vol. lxix., 1886, p. 419.

[4] Du Mammelon et de son Auréole. Thèse de Paris, 1861, p. 43.

[5] Polymastism, with special reference to "Mammæ Erraticæ" and the Development of Neoplasms from Supernumerary Mammary Structures. Journal of Anatomy and Physiology, Jan. 1891, vol. xxv., p. 225.

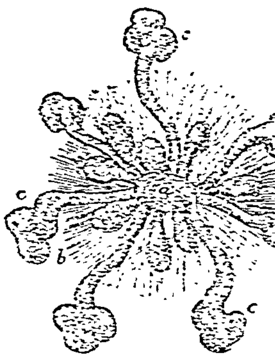
Like all other glands opening on the free surface of the body, the mamma is developed from the deep cells of the epidermis by a process of continuously progressive ingrowing gemmation, with differentiation. (Fig. 1.) The process begins at about the third or fourth month of intra-uterine life by certain of the columnar cells of the Malpighian stratum in the site of the future organ, proliferating more rapidly than those adjacent. (*SM.*) A solid knob-shaped mass of proliferous epithelial cells ingrowing into the subjacent dermis is the result (primary epithelial deposit). About this knob the small, round-celled, embryonic parablastic tissue aggregates and forms a zone from which the nipple is subsequently developed (nipple zone). A few weeks later, by repetition of the initial process, secondary buds arise from the primary ingrowth and likewise grow into the adjacent structures as solid cellular plugs (secondary epithelial deposit). These form the first rudiments of the ducts and lobes, and it is only subsequently that they become excavated. At this stage the nascent gland consists of a single branching system of proliferous epithelial cells ingrowing into the surrounding tissues. In the dermis, beneath the nipple zone, there now becomes differentiated a fresh zone of embryonic parablastic tissue, from which the stroma of the gland is developed (stroma zone). In the next stage the primary epithelial ingrowth undergoes retrogressive metamorphosis, often with a certain amount of cornification, and these changes eventually lead to its complete disappearance. At the same time the secondary epithelial ingrowths undergo further development: they become hollowed out and give off numerous club-shaped buds at their extremities—the rudimentary lobules.

FIG. 1.



(After Weidersheim.)

FIG. 2.



(After Langer.)

In connexion with these small aggregations of irregularly shaped epithelial cells subsequently appear, which constitute the matrix for the development of the true secreting glandular parenchyma—the acini. Towards the end of intra-uterine life each lobe has developed a single external opening or duct.

At birth the organ consists of from fifteen to twenty lobes, the excretory ducts of which are excavated and lined with a single layer of small cubical cells, the rest of the organ being still solid. (Fig. 2.) "In newly born children," says Langer,[6] "we rarely find anything more than the principal ducts, with some indications of ramification in the form of two or three club-shaped processes; and even if these be somewhat more developed, the terminal vesicles are always absent, even in those cases where fluid is secreted." This description has hitherto been generally accepted, but, according to De Sinéty,[7] it is true only for stillborn children and for those who have died shortly after birth. He says that during the first ten days of extra-uterine life considerable formative changes take place in the gland, so that if it be examined at the end of this period some acinous tissue will usually be found resembling that of the adult female mamma during lactation and capable under certain conditions of secreting milk. These changes occur in both sexes and Variot[8] describes them as attaining their maximum between the eighth and fifteenth days after birth. The male mammæ being functionally inactive continue in this imperfectly developed condition throughout life, although they generally manifest some temporary disturbance at puberty. In females remarkable structural changes set in at this period, but it is not until after conception that the organ attains its full development. Before puberty the female breast consists chiefly of excretory ducts, but as this period approaches the true secreting structure arises by the abundant new formation of glandular acini. This wonderful post-embryonic transformation is brought about by progressive gemmation, in the same way as the initial embryonic development, of which it is but a superinduced repetition. This demonstrates that between embryonic and post-embryonic developmental processes there are no differences other than those of degree. In the words of Paget, "it is one and the same power which, being maintained continuously from the germ to the latest period of life, determines all organic formation." The commencement of this mammary rejuvenescence usually precedes the first catamenial period, and at every subsequent period more or less temporary sympathetic reaction is excited. But the most important changes are those induced by the stimulus of conception, which converts the previously functionless structure into an active milk-secreting gland. During this period the acini attain their highest degree of structural perfection. This, however, is but a transitory condition which ceases after a time, when the stimulus is withdrawn, and is again renewed on its repetition. During the intervals between these periods the breast remains in a functionless resting state.

These and many other similar facts show that normal tissues may remain quiescent for long periods, and then suddenly take on new phases of growth and development. In this way, then, the whole organ is gradually evolved from the columnar cells of the epidermis. A gland in its simplest form is merely a modification of a single epithelial cell; and according to Goodsir[9] each acinus of the more complex glands consists at first of but a single epithelial cell. It seems not improbable that the initial germ of the mammary gland itself may be of this simple nature. This account of the ontogeny of the breast is chiefly after Rein, Bowlby, Hüss, Kölliker, and Langer. Creighton[10] has given a very different description of the process. According to him the development of the mammary acini is step for step the same as that of the fat lobules, and the ducts arise from the same parablastic matrix: therefore the homologue of the mamma is not a cutaneous gland, but a "fat body." These heterodox views have not been confirmed by subsequent observers—e.g., Rein and Bowlby.

SECTION III.—ONTOGENY AND PHYLOGENY OF THE NIPPLE.

The nipples (*mammillæ*)—papilla-like outgrowths adapted for being sucked—do not develop until after the glandular elements have been formed and sometimes they never arise. These ontogenetical phenomena are of great interest from the standpoint of phylogeny, because the lowest mammals—the monotremata—have no nipples. In them the milk simply emerges by numerous ducts through a sieve-like perforated patch of the abdominal skin, from which the young animals have to lick it. These ducts open either on a flat surface (ornithorhynchus) or into a pouch of the integument (echidna). From this it may be inferred—inasmuch as the ontogeny of organs generally represents and accords with their phylogeny—that our mammalian progenitors had no nipples, though they had the glands.

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[6] Stricker's Histology, Sydenham Society's Transactions, vol. ii., p. 231, 1873.

[7] Recherches sur la Mammelle des Enfants Nouveau-nés, Archives de Physiologie, p. 226, 1875.

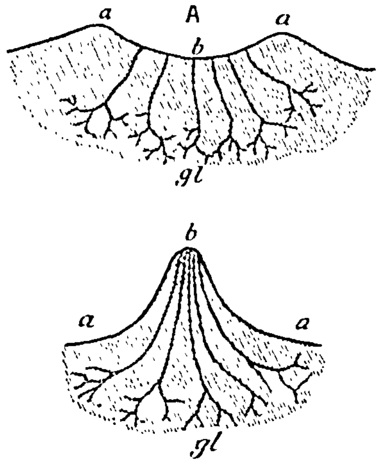
[8] Gazette Médicale de Paris, Oct. 4th, 1890: Remarques sur la Sécretion Lactée chez les Nouveau-nés.

[9] Anatomical Memoirs, vol. ii., p. 422, 1868.

[10] Journal of Anatomy, vol. xi., p. 1; also Physiology and Pathology of the Breast, p. 53, 1878.

The marsupials differ from the monotremata in possessing nipples. According to Darwin[11] these structures were first acquired by marsupials after they had diverged from and risen above the *monotremata, and were by them transmitted* to the placental mammals. In human beings at an early stage of development the site where the nipple will subsequently appear is marked by a depression, towards the bottom of which the ducts of the gland converge (Fig. 3, *a*). Owing to arrest of development at an early stage this rudimentary state may persist throughout life and such malformations are met with both in the normally placed and in the supernumerary nipples. They remind us of the mammary pouch of Echidna. The further development of the nipple is effected by the area of skin, perforated by the ducts, being raised up into the form of a papilla, above the level of the rest of the integument (Fig. 3, *b*). When the whole of the cutaneous area perforated by the ducts of the nascent gland is not integrated with the developing nipple, then such of the ducts as are left behind, instead of opening on the summit of the nipple, do so on the areola, where they are to be found chiefly about the base of the nipple. Thus the so-called glands of Montgomery (glandulæ lactiferæ aberrantes) arise. From the frequency of these and other somewhat similar malformations we may conclude that the mammæ, like the lacrymal and salivary glands, are normally very imperfectly integrated organs. At birth the nipples are fairly prominent in both sexes. Their ducts generally contain disintegrating epithelial cells which sometimes deliquesce into a milk-like fluid.

FIG. 3



(After Gegenbauer.)

Preston.

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[11] Descent of Man, p. 162, 1870.

VICTORIA DENTAL HOSPITAL, MANCHESTER.—On the 27th ult. the distribution of prizes in connexion with this hospital took place at the Grand Hotel. The report for the eighth year of the institution showed that the present year seemed likely to prove an important one in the history of both the hospital and the dental school, inasmuch as the institution would shortly be established in the new and large premises, but which would only be temporarily utilised pending the building of the new hospital. The committee had recently drawn up a graduated scheme of instruction in operative dentistry which they believed to be more thorough and systematic than any at present in use at other dental hospitals in the kingdom.

ON MISSED ABORTION:

WITH NOTES OF THREE TYPICAL CASES.

By ARTHUR H. N. LEWERS, M.D., M.R.C.P. LOND.,
OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL.

CASES of missed abortion are by no means uncommon; they are easily recognised if the possibility of the existence of the condition is kept in mind and proficiency has been acquired in the bimanual method of examination, especially so far as concerns the determination of the size of the uterus. Yet comparatively little prominence has been given to the subject by the majority of writers on gynæcology, with the notable exception of Dr. Matthews Duncan, whose classical lecture on Missed Abortion first led me to recognise cases of the kind. The history is usually of great importance. In most cases the patient, having been previously regular, misses one or more periods, and, especially if more than one period has been missed, most probably believes herself to be pregnant. If it should *happen at this time that the medical attendant* is called on to make an examination, the size of the uterus as determined by him may be of much value in making the diagnosis when other symptoms arise later on. We have, then, to begin with, an interval of amenorrhœa accompanied by the other symptoms and signs of early pregnancy. Generally the first indication of there being anything unusual in the case is the occurrence of hæmorrhage, usually at first slight and intermittent, the intervals between the losses being days or weeks; or it may be that there is a constant, blood-stained discharge, the proportion of blood varying from time to time. It is usually on account of this hæmorrhage that the patient seeks advice. It is obvious how valuable a previous examination of the patient may now prove, if a month or more has elapsed since the previous examination; for it may be found that the size of the uterus has remained stationary or has even somewhat diminished. It *often happens, however, that* we have no previous examination to guide us, and then it is best to compare the size of the uterus when the case is first seen with the size it should have been had the pregnancy been a normal one, reckoning from the beginning of the interval of amenorrhœa. The treatment depends on the amount or persistence of the hæmorrhage. In some cases bleeding is inconsiderable till pains come on leading to the spontaneous expulsion of the ovum; the first case recorded below is an example of this class. In other cases bleeding is *often rather free from time to time, and may* be continued over a long period without the uterus showing any tendency to discharge its contents. In the second case described bleeding had lasted three months. In such cases the right treatment is to dilate the cervix and clear out the uterus. Hegar's dilators are particularly well suited for effecting the necessary dilatation, for the cervix is soft and readily dilates in a few minutes, without laceration, to the size of No. 20. Rapid dilatation is also to be preferred for another reason. The slightest disturbance of the contents of the uterus (such *as is unavoidable when either a tent or* one of Hegar's bougies is passed beyond the internal os) will often set up very free hæmorrhage. An instance of this is recorded in Dr. Matthews Duncan's lecture already referred to: "On the introduction of the tent, hæmorrhage began suddenly and proceeded to an alarming extent, two pints being the quantity estimated as lost within fifteen minutes," &c. Here, as in ordinary cases of post-partum hæmorrhage, it is to tonic contraction of the uterus we must look for the permanent cessation of the hæmorrhage. This contraction cannot occur till after the removal of the ovum; hence the advantage of that method of dilatation which renders the ovum accessible in a very few minutes. After the uterus has been emptied I usually swab out the endometrium with pure tincture of iodine, and then wash out the uterus with a hot douche of iodine water (one or two drachms of the tincture of iodine to a pint of hot water). Subsequently the patient *has vaginal douches of iodine water for a week*, and I am in the habit of ordering some preparation of ergot to be taken for two weeks after the operation. Cases treated in this way do exceedingly well. The following notes refer to three typical cases of missed abortion recently under my care.

CASE 1.—Mrs. H——, multipara, was seen on Oct. 2nd, 1891, desiring to know if she was pregnant. Her last confinement occurred on June 15th, 1890, and she was ill for some three or four months afterwards with phlegmasia dolens. She had not menstruated since the first week of July, 1891. On examination the size of the uterus indicated that she was a little more than three months pregnant. I saw her again on Jan. 4th, 1892, owing to there having been some slight hæmorrhage. *Although it was almost exactly three months since the previous examination, the uterus was little, if at all, larger than it had been then.* As the bleeding had only been slight, she was advised merely to keep quiet and send again if necessary. On Jan. 16th I was sent for to see her about 10.30 A.M., as pain and bleeding had come on during the night. On examination the os was found to be a good deal dilated, and the ovum projecting through. As there was no bleeding at the time, a hot vaginal douche of iodine water was given and the vagina packed with carbolised gauze. At 6 P.M. the gauze was removed and almost the whole ovum was found in the vagina. The fœtus was the size corresponding to a pregnancy of three months and a half. It was macerated, but not in the least putrid. The patient's subsequent progress was quite satisfactory.

CASE 2.—Mrs. S——, a multipara aged forty-one, was seen in consultation on Jan. 15th, 1892. The history was that she had been losing blood nearly every day for the previous three months. Before that she had "seen nothing" for three months and believed herself to be three months pregnant. On examination the uterus was about the size corresponding to three months' pregnancy. The os uteri was somewhat patulous and blood was coming from it. As the patient was markedly anæmic, rapid dilatation of the cervix was recommended and agreed upon. Accordingly on Jan. 17th the cervix was rapidly dilated to the size of No. 20 (Hegar). Smart hæmorrhage occurred directly the first bougie was passed. When the finger was passed into the uterus a fleshy, firm mass was felt attached above, but lying loose at its lower part, and, as it were, flapping about in the relaxed uterus. It was removed partly with the finger and partly with polypus forceps. Bleeding was stopped by washing out the uterus with hot iodine water and by mopping the endometrium with pure tincture of iodine. The mass removed had a flattened, ovoid shape. On section it was found to have a central cavity lined by smooth membrane, but there was no trace of a fœtus. The wall of the cavity was composed of a firm placenta-like tissue, and was from a quarter to half an inch thick. The patient made an uninterrupted recovery. It will be seen that on Jan. 15th the uterus should have been the size corresponding to six months' pregnancy, but it was, in fact, only the size of the pregnant uterus at the end of the third month.

CASE 3.—Mrs. B——, aged thirty-eight, a multipara, was seen on Jan. 26th, 1892, with the following history. The last confinement had occurred about three years previously. She had been regular up to the middle of September, 1891. She did not menstruate in October, but during November a slight "show" of blood, lasting only a few hours, was seen on two or three occasions. Bleeding came on again about Jan. 5th, and had continued daily till Jan. 26th, clots being passed on several occasions, but she had had no labour pains. On examination the uterus was found to be rather smaller than the pregnant uterus at the end of the third month, and it had the usual characters of the pregnant uterus at that time. The patient, however, did not believe herself to be pregnant. A diagnosis of missed abortion (or mole) was made. Had the pregnancy been a normal one the uterus should have been nearly up to the level of the umbilicus, but nothing of it could, in fact, be felt by palpation of the abdomen alone. She had been taking a mixture containing ergot for a few days before I saw her. The cervix was rapidly dilated on Jan. 27th and the ovum removed, the various procedures being the same as those adopted in Case 2. In this case, however, there was a fœtus of about ten weeks' development; it was macerated, but not putrid. The patient subsequently did well.

Wimpole-street, W.

MEDICO-PSYCHOLOGICAL ASSOCIATION.—The following candidates passed the examination of proficiency in Psychological Medicine at Bethlem Hospital on July 7th and were awarded the certificate:—Frank Belben, E. Milliken Goldie, W. A. Haslam, R. J. Hutchinson, Robert H. Lloyd, J. H. Sprout and W. F. Umney. Dr. George M. Robertson obtained the medal and prize of ten guineas for the best essay, and Drs. Nathan Raw and George R. Wilson were bracketed equal for the Gaskell Prize.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL.

◆

UNUSUAL EFFECTS FROM THE USE OF ATROPINE AND HOMATROPINE EYE-DROPS IN INFANTS.

BY GEORGE CARPENTER, M.D. LOND., M.R.C.P.,
SENIOR PHYSICIAN TO OUT-PATIENTS TO THE EVELINA HOSPITAL FOR SICK CHILDREN.

THAT children bear belladonna well and much better than adults is an established fact, and that they can absorb large doses of the drug without physiological reaction is sufficiently recognised. Like everything else, however, there is a *but* attached to the above statements, and as the result of my clinical observations that "but" is as follows. For some years now it has been my practice to make free use of the ophthalmoscope for diagnostic and other purposes. The combination of a pin-point pupil, a roving eye, a screaming infant and a large out-patient clinique not being conducive to rapid ophthalmoscopical examinations, I have been frequently compelled to make use of atropine or homatropine to facilitate matters. It is quite agreed that dilatation of the pupils is one of the most characteristic symptoms of belladonna. Ringer says he has often given to children two or three years old as much as ten minims of the tincture every hour, and this quantity usually produces no effect, neither dilating the pupil nor making the throat dry. The only symptom he has ever noticed from these large doses is dilatation of the pupil. With these remarks I cordially agree.

As the result of my observations on young infants I find: 1. The pupil not infrequently in infants[1] remains for a long time undilated, sometimes for hours. The reaction is often tardy, and then the pupil may not dilate to its full extent. This is quite apart from iritis, iritic adhesions, or what not. 2. Physiological symptoms in infants not seldom occur; whether from absorption by the ocular conjunctiva or passage down the lacrymal duct and so on, I am not prepared to state—possibly both causes are in operation.

In support of these statements I give the following instances as examples, but I have met with more than these cases.

CASE 1.—T. M——, aged three months, a congenital syphilitic suffering from double congenital cataract. When atropine drops were put in his eyes he soon afterwards flushed. His mother said the features became swollen, the breathing seemed to be stopped and he remained in a distressed condition for the rest of the day. The pupils did not dilate at all satisfactorily.

CASE 2.—H. S——, aged two months, a congenital syphilitic affected with rickets, attended on March 28th, 1889. On June 3rd he had two applications of atropine to the eyes; the pupils did not dilate. He developed a bright-red flush and gaped. On June 17th several applications of atropine were made to the eyes, but the pupils refused to dilate to more than half their extent. The child became considerably flushed both as to his eyes, face and chest. The mouth, though moist, was drier than usual. His mother said that he slept very heavily for about an hour. There is a note on July 1st to the effect that the pupils were much dilated for three days and did not become so until two days after the application of the drops.

CASE 3.—A. H——, aged seven months, a congenital syphilitic; proptosis dating from birth. The nystagmus was chiefly to the right; there were no fundal changes and no iritis. The pupils took a very long time to dilate at all, and then they were not large.

CASE 4.—M. A. M——, aged four months, a congenital syphilitic. Homatropine drops were used in order to examine the fundi. Shortly afterwards the child became flushed and drowsy. There were no changes in the fundi or traces of old iritis.

Exception may be taken to my first conclusion on the ground that the cases I quote were syphilitic; *ergo*, iritis or iritic adhesions were in action. My reply to that is: Putting aside the rarity of iritis in infantile congenital syphilitics in my experience, from systematic observation in a large number of such cases, they presented neither iritis nor iritic adhesions to focal or ophthalmoscopical examination. Moreover, I think that assumption is quite out of court, for I have noticed it in others not syphilitic. As regards my second, a too liberal allowance of drops may be suggested. Putting aside the fact that the phenomena narrated soon supervened they had no larger quantity—and possibly less from the difficulties attendant—than older children who show no such symptoms. The atropine drops contained 1 per cent. or four grains to the ounce; the homatropine drops also contained 1 per cent. or four grains to the ounce.

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[1] I have not noticed these effects in those over one year of age.

St. Ermin's Mansions, S.W.

PNEUMONIA SUCCESSFULLY TREATED BY BRIN'S OXYGEN.

BY ROBERT WATERING BATEMAN, M.R.C.S., L.S.A.

I SEND the following note for publication in THE LANCET, as I believe I am right in saying that this case is among the first treated by Brin's oxygen, as suggested and carried out by Dr. Lauder Brunton in the case of a clergyman in London.

Mrs. W——, aged sixty-three. I was called in whilst on my rounds on Jan. 31st of the present year to see this lady, and found her suffering from the prevailing epidemic (influenza), with a temperature of 103°. After administering quinine the temperature came down, and all the influenza symptoms were subsiding until Feb. 6th, when pneumonia of the left base appeared, the temperature going up again to 102° and the breathing to 36. Consolidation appeared next at the right apex behind; and, the patient becoming in a very dangerous state, I called Dr. Image of Bury St. Edmunds in consultation, and he advised Brin's oxygen. On administering the oxygen on the following day it was remarkable how the cyanosis disappeared after five minutes' inhalation. The inhalation was kept up for ten minutes the first time and given for a longer period subsequently. After that the oxygen was given twice daily, twenty minutes' inhalation at a time, until March 25th. The effect of the oxygen was very marked: after one administration, when at her worst, the patient remarked that it made her feel quite hungry. It always removed the cyanosis, refreshed her, and kept her going. The apex of the right lung commenced to clear first and then the left base, until March 5th, when they were quite well. The administration of the oxygen was continued afterwards, as the convalescence was extremely slow, and it always did her good. There is one thing which ought to be well borne in mind—viz., that inflammations following epidemic influenza are of a very ataxic character and require free stimulation; for drugs, ether, ammonia and senega are the most useful, hyoscyamus when the cough is very troublesome. A good jacket poultice wrapped round the aching inflamed lung is the best local application, and it is best to put the water in the basin first and then add the linseed, stirring the while to make the poultice. The nurses I had from London last winter almost invariably made them in the opposite manner at first, making a lumpy poultice; whilst the other way, putting the hot water in first and then adding the linseed, makes the poultice of an even consistence. There is another matter to be noticed in the pneumonia of influenza—viz., the erratic character of the inflammation. Commencing in one part—say, the base of one lung—it jumps, so to speak, right over to the other lung, and attacks perhaps the apex. There is no doubt that the influenza germ poisons the lungs, and it being erratic in its general behaviour may perhaps explain its attacking different portions of the lungs. In giving the gas it is best, when the valve has been turned on, to allow it to stream into the mouth direct, and not fill the bag which is in connexion with the tubes. It is a good thing to paint the chest with iodine liniment when the poultices are left off.

Wickhambrook, Newmarket.

A CASE OF INFANTILE LACTATION.

BY J. HILTON THOMPSON, M.D. VICT.,

LATE SENIOR RESIDENT MEDICAL OFFICER IN THE CHILDREN'S HOSPITAL, PENDLEBURY.

THE following case is of interest if only on account of its rarity. A healthy, well-developed male child, born at full term, showed about fourteen days after birth well-marked swelling of the mammary glands. The skin over the glands was congested; on pressure a thin, yellowish, milky fluid escaped drop by drop from the nipples. About two days after the condition was noticed a small, badly defined hardness could be felt in the left breast external to the nipple; moderate pressure caused no pain; the hardness remained for two days, gradually becoming less manifest. Lactation ceased in the right breast in five days and two days afterwards in the left. The general condition of the infant appeared to be unaffected.

Bolton, Lancashire.

CASE OF SWALLOWING FISHBONES.

BY J. R. WHITE, M.B.

ON March 8th last I was requested to attend Mr. D——, and on arrival found him in bed complaining of some abdominal pain and also considerable thirst and retching; the temperature and pulse were, however, normal, but the tongue was coated. The history which he gave was that about a month previously he was partaking of fish in company with his wife, when suddenly a somewhat large piece of fishbone slipped down his throat. He immediately rose from the table, and, feeling choked, endeavoured to eject the offending substance, but without success, and it eventually passed into the stomach. Since the date of the occurrence he had not felt much inconvenience, but occasionally suffered from pain in the bowels and also found he could not exert himself or stoop much without causing pain. At last, as the pain got somewhat worse and sickness commenced, he sent for me. The symptoms daily increased in severity. The pulse rose to 120, also the temperature three or four degrees. The vomiting became constant and was accompanied by purging; there were also pain and tenderness in the abdomen, especially in the ileo-cæcal region, and considerable perityphlitis; the stools were of a typhoid character. The case was one in which the symptoms of gastro-enteritis and typhoid fever were closely combined. I had the advantage of the assistance of Dr. Frederick Carter in consultation. In about a week several pieces of fishbone were passed per anum; the largest was a piece of the backbone about an inch long, with spines attached. Amelioration of the symptoms at once began, convalescence being established in a couple of weeks. A sequel which I consider of interest in this case is that the patient was insured in an accident company and claimed compensation for the accident which he had met with, which he obtained.

Grays, Essex.

PYROGALLIC ACID.

BY U. BANERJI, M.R.C.S., L.R.C.P. LOND.

ON May 15th last at about 3.30 P.M. two patients, husband and wife, took pyrogallic acid. From the statement of the husband and from the appearance of the bottle I consider that much more than a drachm of the acid was taken by each. The man told me that he swallowed two handfuls of the poison. On arriving at the house at 4 P.M. I found the male patient under the influence of liquor, and taking a bath under a water-tap. I administered an emetic to each, mustard and hot water. The male vomited, but the female did not. The vomit appeared to consist of water, mustard, mucus and a white matter looking like pyrogallic acid which I at the time held in my hand. Finding that the patient did not complain of anything, I simply ordered twenty drops of dilute nitro-muriatic acid to be taken every two hours, and at night six ounces of olive oil to be taken in three equal doses. Next morning (the 16th) I found the patients in their usual good health, but in both cases the tongue was stained deep black. The urine and stools passed over-night were quite normal. I did not order any medicine. On the 17th I took the following notes from the male patient (the female, I might have mentioned, never complained of anything abnormal): "Sensation of drowsiness coming on at intervals; the patient likens it to that produced by opium. There is nausea, but no vomiting; slight paroxysmal numbness about the extremities and face; slight palpitation and dryness of the throat; tongue moist, still black; no abnormal sensation in the abdomen; passed a natural stool in the morning; heart sounds normal; pulse 62 in the minute; urine normal; perspiration rather scanty;

no headache; slept well." Since the above date the patients have been continuing in their usual good health. No one was present to see the acid actually swallowed, but the patients said that they took it in handfuls. The bottle which contained the acid was as large as a Howard's quinine phial; two-thirds of its contents had disappeared. In the *Medical Record* (page 49) a case is recorded in which a patient suffering from psoriasis was poisoned by pyrogallic ointment applied to one half of his body, whilst to the other half chrysophanic acid ointment was applied for comparison. The difference can be explained only by the supposition that the acid acts differently when applied and when taken internally.

Calcutta.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se compare.—Morgagni *De Sed. et Caus. Morb.*, lib. iv. Prooemium.

ST. BARTHOLOMEW'S HOSPITAL.

CASE OF HYSTERICAL PARALYSIS OF THE ABDUCTORS OF THE LARYNX AND OF THE DIAPHRAGM, ASSOCIATED WITH PECULIAR MOVEMENTS OF THE PALATE.

(Under the care of Dr. S. West.)

The following is an interesting account of a patient suffering from paralysis of most important muscles due to hysteria. It is said, and with reason, that this disease may simulate almost any other known disease; but there are usually certain conditions accompanying it which enable the physician or surgeon to recognise the origin of the trouble. Here "the very irregularity of the affection" enabled the physician to come to a correct diagnosis. Had it not been for the careful examination of the larynx and the instructions based on the conclusion arrived at, it is possible that tracheotomy would have been performed for the urgency of the dyspnœa and a considerable element of danger introduced into the case as a result of the performance of the operation. The onset of bronchitis or of pneumonia might have proved fatal where the diaphragm was already paralysed.

The patient, a woman aged thirty-eight, was admitted into the hospital on account of dyspnœa. She stated that she had been in her usual health until Christmas time, when she was attacked with bronchitis, from which she had suffered once or twice before during the last three years. She had had a cough, but her breathing had not become difficult until a week before admission, in the middle of February. The patient was of medium height and well nourished. She was evidently suffering from dyspnœa, for the breathing was laboured and somewhat hurried, the alæ nasi dilating, the face flushed, but without much cyanosis. The movements of the chest were peculiar, the breathing being entirely with the upper parts; the diaphragm was apparently paralysed, for it did not descend at all on inspiration; and the abdomen, instead of being made prominent by inspiration, was retracted, as if the diaphragm was sucked up into the thorax, the lower intercostal spaces and the lower ribs being at the same time drawn in, as were also the supra-clavicular and episternal spaces; the larynx remained fixed and showed no respiratory excursion. On auscultation nothing was to be heard out of the normal except a little wheezing. Inspiration was rather noisy, evidently owing to laryngeal stridor.

On examining the throat the movements of the palate were seen to be extreme, but of a peculiar kind, for on expiration it was raised with considerable violence as high as it could be, becoming on expiration quite flaccid, and falling down as if suddenly paralysed. The vocal cords, on laryngoscopic examination, were found to be in close approximation and separated by a chink not wider than half a line during inspiration, while on expiration they separated and assumed the cadaveric position. The cords themselves were quite white, though the patient spoke with a hoarse voice. As already stated, there was no respiratory excursion of the larynx at all, in spite of the laryngeal obstruction. The arytenoid cartilages did not move towards the middle line on inspiration, when the cords approximated, so that at that time a triangular chink was left in the posterior part of the glottis; on phonation, however, they moved freely towards each other and took their proper place. The condition of the larynx was clearly this, that the abductors were completely paralysed. Of the glottis closers the crico-arytenoidei laterales contracted on inspiration, possibly alone or in conjunction with the crico-arytenoidei to some extent. The arytenoidei postici and obliqui were not paralysed, for on phonation they contracted, bringing the arytenoid cartilages into approximation, though as the voice was hoarse it is probable that their contraction was not perfect, and the same was the case with the crico-arytenoid. The action of the larynx was to a great extent perverted, as was that also of the palate, while the diaphragm was paralysed. The very irregularity of the affection suggested the correct diagnosis—viz., that of hysteria. This diagnosis was supported by the history obtained from the patient, that at the age of twenty-three she had suffered from a contraction of the throat and neck, so that she could not open her mouth, on account of which her front teeth were drawn and she was fed for some weeks by means of a stomach pump. The patient was now put under chloroform, but without any relief to the breathing. Perhaps she was not completely anæsthetised, for the breathing became unsatisfactory, and it did not seem prudent to push the chloroform further. Having formed the opinion that the affection was hysterical, Dr. West's instructions were given that the patient was on no account to be tracheotomised, but that if the dyspnœa became urgent intubation should be performed. This was done two days later, but without much success, for the tube was not long retained in position.

The interrupted current was then applied two or three times during the next two days externally to the larynx. The condition remained much the same until the 22nd, when it was found that the arytenoid cartilages moved on inspiration about half way towards the middle line, thus increasing the dyspnœa somewhat. The breathing had from her admission been noticed to be much quieter during sleep. The patient was able to take solid food, but vomited at irregular times after taking it.

On the 26th, on examination in the morning, the condition was the same, but about mid-day it suddenly changed and the breathing became perfectly quiet. The diaphragm moved naturally, though not freely; the palate ceased to move at all on inspiration. The vocal cords occupied their normal position on quiet respiration and on deep inspiration separated widely as they ought to do; but it was observed that they were in constant oscillation, as if uncertain what exactly to do, sometimes being somewhat approximated and sometimes extremely retracted. On phonation the movements were natural, though approximation seemed to be hardly complete, for the cords were not quite tense enough; and from this cause, as well as from a little laryngitis, the result of the intubation, the voice was still husky. The interrupted current had been used daily and the patient objected greatly to its application. On the 29th the approximation of the cords had returned, though not quite to the same extent as at first and there was but little dyspnœa. On expiration, however, the cords did not recede more than a little and could not reach the cadaveric position by a long way. The same uncertainty about the contractions was evident, which was previously observed, so that on no two consecutive respirations were the positions exactly the same. The palate was stationary and the diaphragm moved now and then, but seemed to be equally uncertain what to do. This condition remained much the same whenever examination was made until March 2nd, and then during the application of the battery to the abdomen the action of the diaphragm became normal, and on applying it to the larynx, and making the patient speak, the voice became quite clear, and both breathing and speaking remained natural till March 4th. On that morning the symptoms had returned, but an application of the battery caused their prompt disappearance, and at Dr. West's visit in the afternoon he found the diaphragm and palate acting naturally, but the action of the cords was peculiar, the uncertainty of their movements being greatly exaggerated—in fact, almost choreic—on quiet respiration, though deep inspiration steadied them for the time, as did phonation also. Phonation, however, appeared to be perfect, for the voice was clear and steady.

The patient, having a great dislike to the battery, and being otherwise not content, declined to remain longer in the hospital. A fortnight later she was admitted in the same condition, and was afterwards sent to a convalescent home. Altogether she was under observation for nearly three months. The symptoms varied from time to time, and often were entirely absent, but when they occurred they were the same as described above, except that the paralysis of the diaphragm and the perverted movements of the palate were never again so marked.

GENERAL HOSPITAL, BIRMINGHAM.

A SERIES OF CASES OF CONGENITAL MALFORMATION OF THE LARGE INTESTINE; REMARKS.

(Under the care of Mr. GEORGE HEATON.)

WE published in the last issue of THE LANCET, p. 257, the first two cases of this series. Case 1 was an example of imperforate anus with probable absence of rectum and descending colon; an artificial anus was made in the left groin and the patient lived six weeks; no post-mortem examination could be obtained. Case 2 was one of imperforate rectum, with penile fæcal fistula. After incision the mucous membrane of the bowel was brought down and sutured to the skin. The child recovered and was quite well when last seen some months after operation. We would refer our readers to the remarks by Mr. Heaton.

CASE 3. *Imperforate anus, with malformation of the large intestine.*—This patient was sent for examination by Dr. Purslow, who kindly allowed the case to be reported. The child, a male one, lived only a few hours, and was the subject also of a double talipes equino-varus, extroversion of the bladder and a parasitic fœtus attached to the dorsal spine. On making an examination, a large pouch was found situated in the middle line behind and projecting externally below the attached fœtus. The small intestines were natural, but several coils were contained in this hernial sac. The cæcum was fixed centrally to the posterior wall of the sac and from it the large intestine passed vertically downwards and entered the rectum in the middle line over the lumbo-sacral promontory. The ascending, transverse, descending and sigmoid colon were thus represented by a piece of large intestine two inches and a half long and both loins were empty of large intestine. The rectum itself ended about two inches from the skin of the anus in a dilated pouch. Passing from this pouch along the back of the bladder to the anus was a dense fibrous band. Externally there was a slight depression marking the situation of the anus. The tuberosities of the ischium were very closely approximated. The other deformities do not need description here.

CASE 4. *Imperforate anus with vaginal fæcal fistula.*—A. X——, aged seven days, was admitted into the General Hospital on May 20th last with a history of having passed all her motions through the vagina since birth. An examination showed the anus to be absent, no depression or marking of the skin being present to indicate its position. The labia majora and minora were swollen, tender and covered with an acute eczematous rash. On straining or crying yellow fæcal matter escaped from the vulva. Chloroform was given and an examination made. On drawing the labia minora apart the orifice of a fæcal fistula was seen, situated posteriorly in the middle line just at the attachment of the hymen. A bent probe was passed through this into the rectum and made to project in the perineum. This was cut down upon and a free opening made into the dilated rectum. The mucous membrane of the bowel was brought down without difficulty and stitched to the edges of the skin incision. The eczema quickly disappeared from the vulva and fæces were discharged normally through the anus. The child left the hospital on June 11th owing to measles, but is to return later to have the fistula closed.

CASE 5.—This case is interesting as illustrating an arrest of the cæcum in its passage from the umbilical region into the right iliac fossa. R. M—— was admitted into the General Hospital on Aug. 18th, 1890, four hours after birth. The infant was a well-formed female child. Protruding from the umbilical region was a membranous sac about the size of a large orange, with walls,—thin and transparent in most of their extent, but thickened on the right side, where the umbilical cord entered. The intestinal coils could be plainly seen through the sac walls. Taxis utterly failed to reduce any of the contents. Two hours after admission the child was given chloroform. The sac and abdominal wall were freely laid open by a vertical incision, and the contents partly reduced into the abdominal cavity. Several coils of small intestine, one with the remnants of Meckel's diverticulum attaching it to the sac wall, were reduced. The cæcum and vermiform appendix were also present in the sac, and reduced after some difficulty, owing to their adherence to the sac wall. The line between sac and skin was well defined externally, but internally the membranous sac was lined for about an inch by a vascular velvety membrane. It was to this membrane that the cæcum was adherent. The sac, with the attached umbilical cord, was cut away and the opening closed with silk sutures.

Aug. 19th.—The child vomited "coffee-ground" matter all that evening, and throughout the night. The vomiting continued at intervals during the day. At 4 P.M., as no urine or meconium had been passed, a small catheter was passed and urine drawn off. The anus was then examined and thoroughly dilated with dressing forceps. This gave vent to a large quantity of meconium. The vomiting ceased from that time and the child rapidly convalesced. The remnant of the umbilical cord separated on August 24th and the child was sent home with the wound soundly healed on August 31st. She has been seen lately, eighteen months after, and is a strong healthy girl. She has never since leaving the hospital had any intestinal trouble.

Remarks by MR. HEATON.—In Cases 1 and 3 it was not possible to find the rectum through an incision in the perineum—in Case 3 certainly, and I feel sure also in Case 1, though post-mortem evidence was not obtainable in this case, both the ascending and descending colon were absent from their normal situations. The question of colotomy, in cases where the rectum cannot be reached through an exploratory incision in the perineum has been ably discussed by MM. Huguier and Robert, and by Mr. Morrant Baker. Amussat's operation in the loin is open to the objections that the space is extremely limited, the distance between the iliac crest and the lower ribs being in these cases very small and that the thickness of subcutaneous fat makes the wound a very deep one. Again, the descending colon is frequently at such an age attached by a complete meso-colon, and the risk of opening the peritoneal cavity is thus considerably increased. M. Huguier, in his paper on the subject, advocated a colotomy in the right loin. He had noticed that in cases of complete absence of the rectum, the descending colon frequently took a sharp bend to the right and ended to the right side of the middle line. In such cases the operation would undoubtedly be simpler on the right than on the left side. But presuming both ascending and descending colon to be present in their normal positions, as they are in the majority of such cases as far as I can gather from an examination of museum specimens, it seems unreasonable to operate on the right, expecting to find the abnormal rather than first of all to look for the descending colon in its normal position. In Case 1 a diligent search in the left inguinal region failed to find the colon and the exhausted condition of the patient rendered it unadvisable to make a second exploratory incision on the opposite side. In future in a case where a careful perineal exploration failed to find the rectum I should be disposed to make a small median abdominal incision. The iliac fossæ could then be explored and the position of the colon ascertained, then a left or right inguinal colotomy could be performed, as the case might be, and the original wound closed. In the rare event of failure to find any large intestine, the exploratory incision could be converted into an artificial anus by bringing up a distended coil of small intestine and opening it *in situ*. Case 2, in which together with an imperforate rectum there existed a fæcal fistula at the end of the penis, is a rarity not often met with. The urinary passages were quite separate and perfect. The fusion of the hind gut with the proctodæum had failed to take place and in its stead there existed a long narrow fistula connecting the blind end of the gut with the skin of the penis. Case 4 is a common variety of the deformity, and I have seen two other instances. The fistulous communication is, as a rule, a free one and so the patient does not suffer from intestinal obstruction. In fact cases are on record where the subjects of this deformity have grown up without being aware of there being anything the matter. Attention, however, is usually called to the case by the irritation which the fæcal matter sets up in its passage through the vulval outlet. Case 5 is an example of an arrest of the cæcum in its passage from the umbilical region to the right iliac fossa. Mr. Lockwood has shown that this part of the large intestine, which originally protrudes into the umbilical sac, passes first of all from the umbilical region upwards towards the left hypochondrium. It then passes across the abdomen into the right hypochondrium and finally descends into the right iliac fossa. In this case the cæcum was detained in the umbilical sac, probably owing to intra-uterine peritonitis, of which the florid granulations described as present in the sac are an evidence. This detention would then, of course, prevent the closure of the umbilicus and thus produce the hernial sac. The after treatment of cases of imperforate anus is of the greatest importance and persevering attention is required for a long time. The tendency of the newly made opening is always to contract and unless kept in check the patients will be left with an extremely troublesome and intractable stricture with all its sequences. In many cases no doubt it is impossible to bring down the mucous membrane of the bowel to the skin without undue tension, but when this can be done I consider it of the greatest importance to get union between it and the edges of the skin incision. In one of my cases I obtained such union all round and in another I was able to get union on one side. Very little contraction of the anal outlet has taken place up to now in either of these cases; and the occasional passage of a small bougie is all that is necessary to counteract this.

Reviews and Notices of Books.

Watts' Dictionary of Chemistry. Revised and entirely Rewritten by H. FORSTER MORLEY, M.A., D.Sc., Fellow of University College, London, and Professor of Chemistry at Queen's College, London; and M. M. PATTISON MUIR, M.A., Fellow and Prælector in Chemistry of Gonville and Caius College, Cambridge. Assisted by eminent contributors. Vol III. Longmans, Green & Co. 1892.

THE publication of this most important and valuable work proceeds with commendable punctuality, and the new volume, which is larger than either of the first two, is fully equal to them in merit. It will be remembered that, owing to the rapid progress of discovery and the alterations of plan which were found necessary, little has been left beyond the name of the original editor. Almost the whole has been rewritten, and, although the work has been lightened by the exclusion of analytical and applied chemistry—to the last of which a separate dictionary in three volumes has been devoted—the editors have been compelled to use the utmost possible condensation.

As before, the bulk of the work has fallen on the editors, Mr. Pattison Muir taking the inorganic and Dr. Forster Morley the organic portions. Even the slightest examination will show how enormous the labour and how thoroughly conscientious the work of the editors has been. Quotation is next to impossible, for the contractions employed are so numerous that a large proportion of the book is more like a lexicon than a treatise. In regard to all important substances, the greatest pains have been taken in the statement not only of chemical but of physical data. Thus in the article on nitrogen we find an account not only of the formation, preparation, properties and combinations of the element, but also its boiling point as liquid, its specific gravity as gas and liquid, its specific heat, its coefficient of expansion, its absorption, coefficients, its heat of combustion, and many other most important physical constants. A similar example is afforded in the article on naphthaline, which opens with a long string of physical constants. References to original authorities are incessant throughout the volume, and are greatly assisted by a list of abbreviations printed on a book-marker. One of Mr. Muir's best articles is that on "Molecular Weights," in which the important law of Raoult, which states the relation between molecular weight and the lowering of freezing point produced by solution, is clearly stated and illustrated. It forms as it were an appendix to the articles on atomic and molecular weights in vol. i.

The following special contributors have assisted the editors:—Professor H. E. Armstrong ("Isomerism"), Mr. Carnegie ("Periodic Law"), Mr. Crookes ("Rare Metals"), Mr. C. F. Cross ("Lignone"), Mr. Fletcher ("Mineralogical Chemistry"), Professor Halliburton ("Milk and Muscle"), Professor Huntington ("Metallurgical Chemistry"), Dr. Hutchinson ("Isomorphism"), Professor Japp ("Ketones and Lepiden"), Dr. Rideal ("Paraffin and Petroleum"), Mr. Shenstone ("Ozone"), Professor Tilden ("Pentinene"), Professor J. J. Thomson ("Molecular Constitution of Bodies"). It is evident that in many cases no other authors equally suitable could have been chosen for the articles. Thus, for example, what other chemist could have written on "Rare Metals" with authority equal to that of Mr. Crookes? Detailed criticism of a book like this is of course impossible, and a few words on articles likely to be particularly interesting to our readers must suffice. Mr. Cross, who, with his colleague Mr. Bevan, has worked more than anyone else in this branch of research, has contributed under the heading of "Lignone" a very valuable history of the present state of our knowledge in regard to the process of lignification. It may be regarded as supplementary to the article on Cellulose in vol. i., but it brings the history of discovery well down to the present time. The complex group of carbohydrates is gradually revealing its mysteries in response to the patient labour of chemists. Since the first synthesis of glucose new hopes have grown in the minds of investigators. Many of Dr. Morley's articles—for example, those on Lactic Acid and Phenol—will be interesting to physiologists as well as to chemists, especially as some analytical details are given. Professor Halliburton's articles are somewhat sketchy. Doubtless more details will be given in regard to the constituents of muscle in the article on "Proteids," which has not yet appeared.

When these two important dictionaries shall have been completed, or even before that time, we hope the publishers may undertake the preparation of that much needed work, a dictionary of analytical chemistry. It would form a most valuable supplement to the other two.

Indigestion. By GEORGE HERSCHELL, M.D.Lond. London: Baillière, Tindall, and Cox. 1892.

THE majority of cases met with in practice are probably those which may be classed under "dyspepsia," and perhaps no subject receives less attention in our medical schools. Cases are so common in the out-patient rooms of hospitals, and the treatment of them is so unsatisfactory, that students give little heed to them, and it is only on entering into practice that the deficiency in knowledge of such an important group of diseases is discovered. On referring to the ordinary text-books the practitioner will find but a meagre account of the symptoms and treatment of the all-prevailing complaint, indigestion. The volume we are now considering well supplies the want which has been felt for a concise account of this disorder. Seldom have we met with a work better arranged or more easy of reference. The book consists of less than 200 pages, yet in it the reader will find a very fairly complete account of the subject. The first chapter is preliminary and treats of the process of normal digestion, an intimate knowledge of which is essential to the correct understanding of disorders of the digestive tract. The student is not harassed with numerous theories as regards the processes of digestion, but the facts are stated simply and comprehensively. The causes of indigestion are then considered, special stress being naturally laid on the alterations in the quality or quantity of the gastric juice. The symptoms of dyspepsia are notably numerous and uncertain, but the author of this work has not shirked his task, and has chronicled them in a most satisfactory manner. He draws attention to some that are but little recognised or rarely referred to their true cause, such as a "feeling of constriction at the root of the nose," which Dr. Herschell states is a very distressing and not uncommon sensation, and adds that it is relieved at once by the insufflation of a little menthol or cocaine. The objective examination of the digestive organs is fully detailed, and then the clinical varieties of indigestion, with special reference to diagnosis, are discussed, the chief points which are considered being the main differences between chronic catarrh of the stomach and functional gastric indigestion—"atonic dyspepsia." The chapter on treatment is naturally the one to which readers will turn with most interest. It will well repay close perusal and study. Diet holds the first place and exact directions are given for the management of the meals in the different varieties of dyspepsia which are met with. Here we should like to offer one suggestion, and that is that the few excellent French formulæ should in the next edition be given in their English equivalents. We congratulate the author on his work, and recommend it to all who wish to successfully combat that most troublesome complaint—indigestion.

The Pathological Histology of Bronchial Affections, Pneumonia and Fibroid Pneumonia. By A. G. AULD, M.D. London: J. & A. Churchill. 1892.

THIS work is manifestly the outcome of much patient research and thoughtful reflection. It embodies several newly noted facts in the normal and morbid histology of the air passages and lungs, and is outspoken in criticism of current teaching on certain points. Indeed, it is not often that the study of the structure of the bronchi is so fully treated. The author shows that the earliest stage of bronchial inflammation involves no change in the epithelial elements, but is purely a condition of vascular engorgement and subepithelial exudation. Then comes swelling of the surface cells, an increased outpouring of mucus, and at the end of twenty-four hours the characteristic process of proliferation and degeneration of the epithelium. Although he admits the difficulty in the way of obtaining proof that there is also actual diapedesis of cells from the vascular territory to the surface, he is not inclined to agree with Hamilton that this does not occur, and indeed he describes the transit of leucocytes through the basement membrane. In addition to these phenomena there are of course changes in the mucous glands, which are succinctly described. In the later stages Dr. Auld finds evidence of proliferation of the connective tissue cells, and he boldly traverses Cohnheim's views of the origin of pus. In respect to the pathology of chronic bronchitis he prefers to attribute the hyperplastic changes which are to be observed in the epithelial as well as in the fibrous elements to an atypical growth rather than to simple inflammatory processes; and he has found that this overgrowth also concerns the muscular and even the cartilaginous structures. Subsequently in this disease atrophic and degenerative changes set in. The section on Bronchiectasis contains also several points of original observation, such as the detection of "aberrant" smooth muscle fibres in the wall of bronchiectatic cavities, and the transformation of the epithelial lining of the bronchi into a layer of flattened cells and duct-like processes which can be seen in the inner walls of the sacculations. The duct-like formations are, he thinks, derived from the acinous glands. He inclines to the view that the chief causes of bronchial dilatation are collapse and atrophy of the pulmonary tissue. There is a chapter on Bronchial Asthma in which the congestive theory is disputed; but the most interesting portions of the book are those which deal with broncho-pneumonia, acute pneumonia and fibroid pneumonia. On the last-named subject Dr. Auld has much to say that is of value, and his conclusions are, in the main, justified by the observed facts. Altogether the monograph is a creditable piece of work.

OUR LIBRARY TABLE.

Plutarch's Life of Themistocles. With Introduction, Critical and Explanatory Notes, Indices and Map. By HUBERT ASHTON HOLDEN, LL.D. Third Edition, rewritten and enlarged. London: Macmillan and Co. 1892.—Those of our readers who wish to retain or revive a working knowledge of Greek could not do better than make this compact little volume the companion of their holiday. Its publication as a first edition some years ago anticipated, and indeed promoted, the present reaction in Plutarch's favour in our schools and colleges, and it has been followed up by others of the same delightful author's Lives—those of the Gracchi, for instance, of Sulla, of Nicias and of Timoleon—all edited by the same highly accomplished scholar and teacher—brother, we may incidentally remark, of Mr. Luther Holden, the veteran anatomist and demonstrator. Every help will be found by the intelligent reader to have been judiciously provided for him, just so much having been left to his independent judgment as to keep it in wholesome exercise during the process of translation. Besides the charm inseparable from Plutarch's work, the Greek in which he writes is of special value for the light it throws on the language of the New Testament.

The Life of Francis Duncan, C.B., R.A., M.P., late Director of the Ambulance Department of the Order of St. John of Jerusalem in England. By HENRY BIRDWOOD BLOGG, M.A., Vicar of Frodsham, Cheshire; with an Introduction by the Lord Bishop of Chester. London: Kegan Paul, Trench, Trübner and Co., Limited. 1892.—This is a memoir of the late Colonel Duncan, R.A., who was well known in connexion with ambulance work in this country and Egypt. Colonel Duncan spoke in the House of Commons on one occasion in favour of the medical department of the army, urging that its officers had to serve too long abroad and recommending that they should be allowed leave every six or seven years for the purpose of study; also that field hospital work should receive more attention in their ordinary training. Colonel Duncan was an energetic, enthusiastic, and most excellent man and this little memoir of him is an interesting one.

Illustrated Lectures on Nursing and Hygiene. By R. LAWTON ROBERTS, M.D. Lond., D.P.H. Camb., M.R.C.S. Eng., Associate of the College of State Medicine &c. Second Edition. London: H. K. Lewis. 1892.—The general scope of the second edition of this work remains unaltered, but additional information is given on the artificial lighting of rooms, the dietary of the sick and other matters. Its contents are mainly arranged on the plan of the syllabus of the advanced nursing course of the St. John Ambulance Association, and call for little in the way of description or comment. It is a very useful book and enters more fully into details than most works of the kind with which we are acquainted. The lectures on the sick room, food and drink, contagious or infectious fevers and on observation of the sick are good. The information supplied is clearly if rather diffusely given, and the directions are plain and sensible, and, with the aid of the illustrations, easily comprehended. The book has a fairly copious index, which adds much to its usefulness and to facility of reference.

Lip Reading. By WILLIAM VAN PRAAGH. London.—In this little pamphlet the author conveys some useful hints for instruction in lip reading, and speaks with authority on a subject which he has long taught and expounded. The instinct which leads those deprived of hearing to utilise the other senses, especially sight and touch, to gain information more easily conveyed by sound, is the *foundation* of the subject. It is, in short, a refinement and development of gesture speech; and the proficiency attainable by scholars is dependent largely on the state of their general intelligence, which rules the acquisition of articulate speech as a whole. Sometimes cases are observed in which vocal expression, resulting from lip reading, is painfully defective and is often peculiar. There is in many cases an almost distinctive tone and manner of speech; but the fact, which we have ourselves observed, that the deaf mute may acquire a provincial accent shows to what a degree of perfection an intelligent pupil may attain in lip reading. Not merely deaf mutes, however, but adults who have from any cause become incurably deaf may be restored to communion with their fellows by this means.

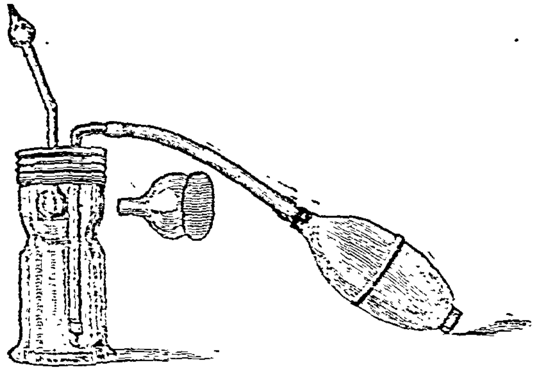
The Journal of Physiology. Edited by M. FOSTER, F.R.S. Vol. XIII., Nos. 3 and 4. Cambridge: Cambridge Engraving Company. 1892.—The following are the contributions to the present number of this journal:—1. A Contribution to our Knowledge of Taste Sensations, by L. E. Shore. 2. On the Respiratory Changes of the Intra-thoracic Pressure measured in the Mediastinum Posterior, by S. J. Meltzer (with two plates). 3. On Retractile Cilia in the Intestine of Lumbricus Terrestris, by M. Greenwood (with a plate). 4. On a Large-fibred Sensory Supply of the Thoracic and Abdominal Viscera, by F. H. Edgeworth (with a plate). 5. On the Nature of Cobra Poison, by A. A. Kanthack. 6. Further Observations on the Influence of Calcium Salts in promoting Heat-coagulation of the Albumins, by Sydney Ringer. 7. The Protective Functions of the Skin of Certain Animals, by W. B. Hardy. 8. On the Excretion of Uric Acid and its Estimation by Haycraft's Process, by A. Haig. 9. On the Fibres of Retiform Tissue, by R. A. Young.

Guide to the Administration of Anæsthetics. By HENRY DAVIS, M.R.C.S. Second Edition. London: H. K. Lewis. 1892.—The present edition contains some additional matter, but in the main is a reprint of the first. The relative safety of anæsthetics receives special attention. The practical details of his subject occupy Mr. Davis's attention rather than the more recondite questions of physiology, and he has endeavoured in his book to present his facts, descriptions and directions clearly and succinctly.

New Inventions.

THE "PULVERFLATOR."

THIS is an apparatus designed to facilitate the efficient use of the compound zinc stearate combinations in the treatment of the naso-pharynx. It consists of a glass reservoir for a powder, closed by a rubber-fitted screw-cap, carrying two glass tubes—namely, a valved blowing-tube with a rubber bulb attached and a distributor. The latter is a glass tube with a conical end adapted for applying to the nostril; this may be replaced by other tubes designed for the larynx or urethra. The cloud of powder raised by the air current forced in by the rubber bulb is screened through a small glass funnel, over which a piece of fine "bolting" cloth is attached. In this way the discharge of the powder in an extremely fine cloud is effected; in fact, when projected into the air, it very closely resembles ordinary smoke. When an antiseptic, a stimulant, a drying or other medicament is mixed with the compound stearate and applied to the diseased area the latter is not only covered and protected by the powder, but, owing to the adhesiveness and persistence of the stearate, it is subjected to prolonged therapeutical action. From its specific lightness, its power of clinging to the membrane and its impenetrability by aqueous liquids the compound stearate is claimed to be specially useful for the medication of the mucous membrane of the nose and throat. We have examined a specimen of pure stearate of zinc and find that it exhibits no tendency to become rancid or to decompose. It is therefore eminently adapted as a vehicle in the treatment of skin affections, or in morbid conditions of the mucous membrane of the nose and throat. Compound zinc stearate is prepared containing also various active therapeutical agents, such as boric, salicylic and tannic acids, bismuth subgallate, cocaine, exalgine, ichthyol, menthol, tar, salol, resorcin, sulphur &c. Messrs. McKesson and Robbins of New York have recently introduced the "pulverflator" and have given special attention to the preparation of the compounds for the administration of which it is designed. The zinc compounds, together with the apparatus, may be obtained of the London agents, Messrs. Maw, Son and Thompson.



TIN-LINED IRON PIPES FOR THE CONVEYANCE OF WATER.

WE have received the following communication from Messrs. Walker and Co., of Heckmondwike, Yorkshire:—"Our attention has been directed to your remarks in THE LANCET of July 23rd on tin as a metal for conducting water, and we note—though you admitted the suitability of this metal for such purpose—you go on to state 'that, if it did not possess certain other disadvantageous properties which preclude its practical employment, no better material could be found.' This fact we have proved to our full satisfaction by long and careful experiments some time since, and we have therefore set to work to try to overcome the very objections you mention, and we now venture to assert that in the tin-lined iron we have succeeded. We are sending a small sample, from which you will see we have the *full* benefit of a pure tin pipe at the least possible cost, yet combined with the greatest strength. All the fittings—such as T-pieces, elbows, bends &c.—are lined through and all tested to over 2000 lb. to the square inch before leaving the works. No soldering being required, it is both cheaper and easier to fit than lead and gives great satisfaction." In the article referred to, whilst it was admitted that no better metal than tin could be employed, especially as regards its power of resisting the solvent action of water, the drawbacks to its use—namely, its hardness, its inflexibility and its expense—were also pointed out. The "tin-lined iron pipe" overcomes one difficulty, that is in respect of expense. At the same time the invention is a valuable and an ingenious one. Such a pipe is for all practical purposes equal to the pure block-tin pipe; and, if it were adopted, no more would be heard of the contamination of drinking water with poisonous metal. Of course, if it can be shown that no other remedy is forthcoming, then lead-piping must be abolished and an innocuous substitute be used. Tin-lined iron-piping might be employed with advantage, we suggest, in certain manufacturing operations, as, for example, in distilling processes and in the preparation of aerated beverages.

THE LANCET.

LONDON: SATURDAY, AUGUST 6, 1892.

"Boil your ice." Such is the counsel given by Dr. Daremberg to the Parisians in view of impending cholera, and the lesson which underlies the somewhat quaint saying contains the pith of the advice which is necessary for the prevention of cholera. It is now many years since we found that freezing does not destroy the ordinary contagia of the diseases of man. We learnt from Massachusetts of the first epidemic of enteric fever, which was traced to the use of ice from a sewage-polluted pond; and only the other day Dr. George Turner presented to the London County Council a most interesting report on the prevalence of enteric fever in the East-end of London through the consumption of "ice-creams," bought from itinerant Italian vendors, whose ingredients were stored under conditions that leave but little doubt as to where the infection came from. "Boil your ice," being enlarged in the scope of its application, becomes for us "cleanliness in all things"—in food, in drink, in all our surroundings. This is the true means of cholera prevention.

In one form or another we have promulgated this doctrine again and again for the last two months; and it is because we attach such enormous importance to it that we avail ourselves of Dr. Daremberg's pithy saying to recur to it once more. The lesson has been taught in every official memorandum issued by the Local Government Board; it was to secure cleanliness in advance of all danger of cholera that in 1883–85 the Government "Cholera Survey" was instituted; and the avoidance of filth in old garments and bedding was the object that recently led to a prohibition on the importation of "rags" into this country from France and from the ports in the Black Sea and the Sea of Azov. Sir Robert Rawlinson, eminent in engineering, but naturally not so skilled in preventive medicine, writes to the public press and says he is "ashamed" that our Government should take such a step as this in its aim after cleanliness. Privy Councillor Dr. Hirsch, on the other hand, with a world-renowned fame as a student of epidemiology, and with ability to appreciate to the full the immense value of public sanitary works, sends word from Berlin to this effect:—"The importation of rags constitutes a most serious danger and should be prohibited from any infected and even suspected district." On the same day comes an account of four fatal cases of cholera at Gonesse, owing to the fact that a *disobedient attendant* had taken the clothes of a cholera patient to his own house *instead of burning them*. Anyhow, we prefer the advice to maintain cleanliness in all things and in no way to limit the application of the doctrine to mere constructive matters such as deal with water-supply and drainage.

We have already given our reason for recurring to this subject, and wish to avoid all appearance of panic-making. There does not appear at present to be more danger to this country than we should at all times be prepared to face. In this connexion we may again refer to Dr. Hirsch. He tells the inhabitants of the German capital that he has but "little fear as regards Berlin." And his ground for this is that the sanitary system of the city has within modern times become so much "perfected" that, whilst isolated cases and importations may occur, he sees no danger of an epidemic. Here, again, it is on the advance towards cleanliness, of air breathed, of water consumed and of the soil on which Berlin is built, together with the security taken against the importation of filthy articles, such as rags &c. from infected areas, that Dr. Hirsch relies. To some of us the message may seem a little over-confident—indeed, it may have been transmitted without some of the cautions with which it should have been accompanied. Indeed, in calling the attention of our sanitary authorities and fellow countrymen to the lesson it conveys we would approach the subject from another point of view. We rather are credited amongst the nations of the world for having made greater strides towards cleanliness, both public and private, than any other country. But those who have taken part in this invaluable work and progress are, of all others, best aware of the large arrears that have yet to be made up and of the ample room that remains for further progress. There are spots in abundance that seem almost to be waiting *their opportunity to impress more emphatically the lesson that* epidemic cholera and filth go hand in hand. There is the *barbarous and revolting middenstead system of our northern* counties, polluting air and soil by its emanations and soakage; *there are similar systems in the south* and elsewhere under which it has become a custom to dig two holes in every man's garden and then to pour all liquid filth into one which is called a cesspool, whilst the drinking water is drawn from the other one which goes by the name of a well. There are houses by the thousand in which the drinking water is drawn from a cistern which also serves a watercloset, and which is also placed in direct communication with the house-drain by means of its overflow pipe; and there are houses in every town by the score and even by the hundred in which there is no such proper disconnexion of house-drain and waste-pipes from the public sewer as to free them from risk of the ingress of that sewer air from public culverts, which may at any moment be a means of conveying the contagium of imported cholera. Our communities are the more to blame because they can no longer plead ignorance. There are members of sanitary authorities who will not provide proper means of sewerage and of water-supply because they fear to lose their seats on the boards at which they sit; there are communities who deliberately elect opponents of sanitary reform because they prefer a risk which seems somewhat remote to a certainty of increased rates; there are public *bodies* who leave individual inhabitants to perform works of cleanliness and scavenging which *they are aware they cannot* properly carry out; and there are householders who live on year after year in dwellings into which they know sewer air can make its way by one channel or another—indeed, such people can be everywhere found in abundance. It is communities and persons such as these who will be among the first sufferers if cholera should come, and it is the towns and localities in which they live which will constitute a standing danger to the community at large. On the other hand, if they will but amend their ways, they will be the first to benefit, for, whether cholera should come or not, we have ample experience to show that permanent measures adopted against that disease have contributed more than anything towards a diminution of those infectious diseases—and notably of enteric fever—which we have always with us, and which are so costly a burden owing to the sickness and death by which we are deprived of the lives and labour of the breadwinners, who constitute the most remunerative element of the State.

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The selection of such a subject as bacteriology for one of the three general addresses delivered at Nottingham before the British Medical Association is a sign of the times. It clearly demonstrates how firm a position has already been gained in medical thought by one of the collateral sciences, besides testifying to the importance of the place which it occupies among them. It is little more than a decade since this subject gained any prominence, and the remarkable researches of which it has been the source have flowed in such abundance as to overwhelm the slower progress of other branches. The subject is so fascinating and the way is so open to new investigations that its rapid advance is hardly matter of surprise; and although in more than one direction the path has seemed closed, and steps have to be retraced, yet on the whole the amount of actual progress within the memory almost of the youngest follower of medicine has been surprisingly great. The opportunity for taking stock of the knowledge already possessed and for indicating the lines upon which research has still to be pursued in this subject has been wisely seized; whilst the exposition of the matter could not have been entrusted to a bacteriologist better qualified for the task than Dr. Sims Woodhead, whose address will be found in another column. He was justified surely in pointing with something like pride to the recognition that bacteriology has obtained; and his survey must have impressed his hearers with the fact that the confidence placed in bacteriology is fully justified. This it could never have received had the study of bacterial life been merely that of the botanist. It is on account of its intimate relationship with the vital processes, normal and deranged, of higher organisms, because of the light it sheds on parasitic action and the intimate processes of cell nutrition, that it has laid hold of the scientific imagination and revolutionised pathological ideas.

It is not surprising that bacteriology should have paved the way to many theories concerning the method of action of bacteria upon the organism in which they flourish. As Dr. Woodhead reminds us, the earliest notions were based on the effects produced by mere mechanical arrest of the circulation through accumulation of the microbes in the bloodvessels; but when this view was found to be insufficient theories were propounded as to the parasites requiring for their maintenance the oxygen which the cells of the infected organism could not lose without being devitalised. Still this view lacked general confirmation, and hence it has come to pass that the chief *rôle* of bacteria in respect to disease is now considered to be played in connexion not with deoxidation but with the formation through their action of chemical substances inimical to cell nutrition. The various morbid processes with which we are familiar, in the facts of pathological anatomy, have thus many of them an origin in parasitic organisms. Inflammation, as Dr. Woodhead pointed out, has been largely explained in this way; and it is by no means improbable that some at least of the forms of neoplasms may be initiated through such agencies. It is, however, in the class of infective diseases that the influence of micro-organisms has been most clearly shown, thus bearing out the truth so long only guessed at that there are germs of disease, although the meaning to be attached to such a phrase is materially different from that assigned it by the earlier theorists. Dr. Woodhead selected diphtheria as an example of the affections in which the mode of action of the infective microbes has been most fully studied. He reminded his hearers that the early experiments of Professor Loeffler, who separated the bacilli from their products by filtration, and the subsequent observations of Professors Roux and Yersin yielded results in complete harmony with the interpretation of the clinical phenomena of the disease, in which the profound general disorder of tissues and organs ensues upon the primary local manifestations. These observers established the fact that the diphtheritic organisms are not to be found in the body beyond the site of inoculation, and that the general effects were produced by their products. Dr. Sidney Martin succeeded in isolating the poisons thus produced. He showed that the essential chemical agencies which exert so powerful an influence on the tissues in diphtheria were albumoses, and it is remarkable that he also failed to detect any alkaloid as in anthrax, but a feeble organic acid which had a poisonous effect on the tissues similar to, but far weaker than, that of the albumoses. The mode of formation of these substances from the fibrinous exudation that forms on the unhealthy mucous membrane which serves as the point of attack of the diphtheria bacillus has been admirably worked out by Dr. Martin, and was clearly summarised by Dr. Woodhead. In this chain of processes, commencing with the specific bacillus, its appropriate media, its power of producing a ferment or enzyme, and the further effect of this in the conversion of fibrine into albumose, we find the most complete presentation of the mode of action of pathogenic bacteria which can be desired; and the field, previously explored by Dr. Martin as regards anthrax, is open for multifold inquiries on the same lines throughout the whole range of infective disease. It is indeed true that in chemistry lies the solution of many a pathological problem, as was clearly foreseen by the late Sir W. Aitken, to whom appropriate reference was made by the lecturer. Incidentally Dr. Woodhead suggested some improvements in the way of making greater use of opportunities for the application of bacteriological knowledge to immediate practical purposes, being led thereto by the advocacy of Professors Roux and Yersin of culture observation in the diagnosis of diphtheria. We commend his suggestions to the notice of the profession.

Yet so far in his address Dr. Woodhead had not touched upon the matter which was doubtless uppermost in the minds of many of the medical practitioners who were listening to his exposition. He had sketched, with a clearness which all could appreciate, the steps whereby we have attained to our present conception of pathogenic organisms and their action. May not some have asked themselves whether this increase of knowledge of the nature and action of bacteria had any light to throw upon the means of counteracting their effects, whether insight into treatment was to follow on insight into pathology. Dr. **WOODHEAD** did not leave them long in doubt, but presented as clear a statement of the question of protective inoculations. That "anti-toxines" do exist in some of these infective diseases, if not in all, must be admitted from the evidence; but that they act in any other way than as stimulating and reinforcing protoplasmic reaction to bacterial poisons is improbable. Again, in some diseases the protective influence of previous attacks or of repeated non-fatal inoculations may be ascribed as the "acclimatisation theory"—that the cells of the body gain in their powers of resistance under the action of the poisons themselves. He showed, too, how different this action was from that which occurs in the tuberculin treatment, where necrotic changes are set up by the agent acting in conjunction with the bacillary poison itself, and he did not hold out much hope of such a process having a permanent effect. Lastly, preventive treatment by inoculation with attenuated virus was dealt with and due credit given to our own countryman, Professor **GREENFIELD**, whose labours on anthrax have been overshadowed by the work of **M. PASTEUR** and his school. We believe that there is a great future in store for bacteriology, and it is likely enough that many views now held on the subject will in course of time receive much modification. Still it is impossible to be unaware of the very striking and, in the main, harmonious results that are being gleaned from all the laboratories in the study of the subject; and it is gratifying to our national pride to know that, in spite of many and great difficulties, some of the most notable advances have been made by workers in British laboratories.

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IT was foreseen that the Notification of Infectious Diseases Act would in various ways raise difficult and delicate questions between the medical man and his patient, the medical man and the public, and even between one medical man and another. In the actual working of the Act these views have been realised. Those who keenly opposed this Act may see in its results a confirmation of their objections, and may still wish that it had never been passed. A closer view, however, of the subject will show that such wishes are futile. It is clear that the public is bent on reducing to a minimum those diseases with which the Act deals. Even a change of Government is not likely to alter the determination to make it compulsory instead of, as at present, optional. There are various reasons for this. Mere economy is one. The cost of the cure of infectious diseases is being more and more thrown on the public. The fever hospitals are being used by an increasing number of persons and by classes of a higher social position than formerly. If the State sees its advantage in receiving such patients into isolation hospitals, it will also see to the best means of limiting the number of cases to be admitted. Society is determined on restricting individual liberty. It will not, if it can help it, allow the individual to contract infectious disease, or, having contracted it, to freely diffuse it. This may be a great inconvenience to the individual, but it is clearly right. Under these circumstances we have to consider, as medical men, our own duty in respect to the Act, which may be strengthened but will not be repealed.

Our first duty, in the light of the requirements of the Act, is to perfect our skill in diagnosis. Legislation has emphasised the importance of this art and any mistake therein is calculated to bring our defects into special prominence. There are some cases in which diagnosis is not urgent. We may take time to make up our minds. There are other cases in which promptitude of diagnosis is a virtue, provided that it be sound. We must not be understood to recommend any undue haste. Diagnosis cannot in any case be hurried. Time must be given for the development of the symptoms on which it must be based. Typhoid fever is especially a case in point. By exclusion of other diseases the practitioner may have a shrewd suspicion that his patient, with the persistency of a certain pyrexia, is suffering from this disease; but it would scarcely be judicious to consign him to an isolation hospital before the appearance of rose spots or of characteristic diarrhœa. Still there may be undue delay in forming a diagnosis till cases have multiplied and avoidable mischief has been done. Mistakes in diagnosis are inevitable, especially in regard to infectious diseases. The managers of the fever hospitals say that they are even on the increase. Four hundred and eighty-eight patients were sent to these hospitals in the course of 1891 who were found not to be suffering from the diseases mentioned in the certificates on which they had been received. The percentage of errors in the diagnosis of patients sent to these hospitals is alleged to have increased during the past five years from 2·4 to 6·2. This, if correct, is a most unsatisfactory result, but it is not altogether unintelligible. The duty of notification has been thrown on the profession somewhat suddenly and failure in the discharge of the provisions of the Act has been severely punished. In some respects the opportunities afforded to students of seeing the infectious class of diseases have been reduced, first by the abolition of pupilage, and secondly, by the increasing tendency to exclude such diseases from general hospitals. When the intrinsic difficulty of diagnosis is considered—a difficulty experienced by experts, who make their share of mistakes—the wonder, indeed, is that only a few errors are made in dealing with so many thousands of cases, many of which occur under circumstances very unfavourable for a careful observation. Still we must not regard those mistakes lightly, and they should be reduced to a minimum. One of the medical officers of the Metropolitan Asylums Board, Dr. **BIRDWOOD**, medical superintendent of the small-pox ships, has, with this view, suggested that in small-pox cases—and we presume he would apply the rule to other diseases—the ambulance conveying the patient should be accompanied by a medical man, having experience of the disease, to confirm the diagnosis. The suggestion is in some respects of a rather impracticable nature, although to many it may seem no excess of precaution to require that before consigning a person to the risks of an infectious hospital two medical men—as in the case of insanity—should certify to the nature of his disease. But even if such a regulation should be made, it is alike the duty and the interest of every practitioner to be acquainted with the essential symptoms of the notifiable diseases. Such an acquaintance can only be obtained by careful and minute clinical study. There is but little excuse now for medical students who do not make this acquaintance. The hospitals of the Asylums Board have been opened to them through the efforts of the College of Physicians and the action of the General Medical Council. Medical men in actual practice can by taking due pains eliminate all but a few doubtful cases. Deliberation must be practised in taking the history of the case and ascertaining the chances of exposure to infection, though this often cannot be traced. The clinical thermometer must be used invariably. He would be a rash practitioner who would fail to use it before notifying, or would send a patient into a hospital for infectious diseases with a temperature under 100° F. To an observant practitioner nothing will be lost. The symptoms at the onset will be well studied as well as those of the fully developed disease, and his carefulness will in this way be matured. There is no royal way to infallible diagnosis. It is only by multiplying good reasons for a diagnosis that it can be sustained or justified, and these good reasons can only be obtained by observation and by reflection on the possibilities of error.

There remain the doubtful cases. What is the practitioner's duty in regard to these? Every day increases his responsibility. He cannot notify till he is satisfied that the patient is suffering from a notifiable disease; but he is by no means free from risk of blame if such a disease is before him and he fails to see it when he should be aware of its presence. To prevent such an error, and the perhaps greater one of notifying that which does not exist, the most reasonable course is in doubtful cases to seek the advice of another practitioner. This is one of the cases for the opinion of an expert. If a patient cannot pay a fee for such a consultation, an experienced friend is generally available, with whom counsel should be taken. When reasonable doubt still remains, or if the consultant or the experienced friend hesitates to pronounce the presence of notifiable disease, it is obviously right to give the patient the benefit of the doubt. But in all such cases the possibility of a spread of infection should be carefully guarded against by as complete an isolation of the patient and disinfection as is feasible. The great point of ethics in this matter is to cultivate accuracy of judgment, and in doubtful circumstances to do to others as we should wish them to do to us. The mere fear of being detected in an error of diagnosis is not a high consideration, but together with others of a higher nature it should prompt us to vigilance and care in the discharge of one of the most important of our functions.

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IT may be not inopportune, at a time when the distribution of the great annual collection made by the religious bodies of the metropolis on behalf of our accredited medical charities is announced, to call attention to a great evil, none the less serious because pertaining to that large class of wrongs which are "wrought by want of thought" rather than by "want of heart." The evil to which we allude is that of the promiscuous lending of names—done in all goodfaith and with the best intentions, but so hastily and so unreflectingly as to be productive of incalculable harm. For our present purpose it will suffice if we select two examples of the mischief resulting from this practice, and ample evidence of its existence can be found any morning in the advertisement columns of our contemporaries. A would-be benefactor, for some reason or other—we put it purposely as indefinitely as possible—proposes to add one more to the already excessive number of London medical charities. For this purpose the first thing to be done is to secure the names of a number of influential and well-known people to figure on the list of patrons, vice-presidents, council and the like. The facility with which this object can be attained is astonishing. Holders of the proudest titles — persons of all others, it might be thought, who would be most jealous of the dignity of their names—out of pure good nature, and for the mere asking, sanction their use by the first applicant who comes pleading the cause of what is apparently charity. The "Hospital for Diseases of the Great Toe" (to take a humorous illustration once suggested by Sir ANDREW CLARK) is no sooner started than it commands the patronage of half the aristocracy and a respectful following of City magnates and plutocrats. It is perhaps doubtful whether any one of these gentlemen directly contributes a single penny towards its endowment or support, but the lending of a name costs nothing, and no active measures are required, save perhaps the pleasant labours involved, especially on the part of the ladies, in the holding of a fancy dress bazaar or a private theatrical entertainment. People who lend their names in this unthinking fashion never pause to consider whether the object in view, however meritorious at the first blush, is either necessary or desirable. In the case cited if these nominal patrons were to consult their medical advisers they would probably at once learn that, owing to the want of funds, many of the general hospitals in London have beds unoccupied, and even closed wards, whilst the money their names will attract into the coffers of the "Hospital for Diseases of the Great Toe"—for

> "Some to the fascination of a name
> Surrender judgment hoodwinked"—

would have placed these beds and wards at the disposal of many applicants who now, alas, have to be turned away. Moreover, they would be told that the multiplication of special hospitals is viewed with disfavour by the profession as a body, and is quite unnecessary, seeing that the general hospitals are provided with special departments. We have no hesitation in saying that, speaking broadly (for there is no rule without exceptions), the rivulets of the stream of charity—and even the smallest of these, properly directed, may prove of eminent service to suffering humanity—if diverted from the legitimate channels of the general hospitals and allowed to irrigate the comparatively unnecessary pastures of highly specialised institutions not only run to waste, but serve to obliterate the landmarks which indicate the more useful and, in our opinion, more deserving harbours of refuge always open to sufferers, be they the victims of a general constitutional disease or of a purely local trouble affecting, let us say, the distal phalanx of the great toe!

The other example of the injudicious "lending of names" which we had in mind is of a different nature, and one in which those who err are of a less distinguished class of society. We refer to the published testimonials of the efficacy of quack remedies, cure-all *nostrums et id genus omne*. The reader of this remarkable species of literature is naturally inclined to believe that such *testamurs* are not genuine, and to regard them as merely the ingenious outcome of the fertile brains of enterprising and irresponsible advertisers. It has been proved, even we fancy, in courts of law, that many of them are, in fact, instances either of misplaced gratitude of an evanescent nature or of fortuitous circumstances. Still, this does not by any means increase their value. The subject has undoubtedly a certain psychological interest; for what bent of mind must those persons have who, by iteration and reiteration, are convinced that the claims of quack medicine vendors, outside stockbrokers and turf prophets are worthy of credence? The cynical remark of CARLYLE that there are so many millions of people in the world—mostly fools—would, we fear, appear to be not less applicable now than in his days, for of a certainty the cost of these advertisements is eventually paid out of the pockets of the British public and not out of the purses of their shrewd authors.

In conclusion we would appeal to members of our profession to acquaint their patients and their friends, as they may have opportunity, with the real worth of the claims of those magnificent institutions, our great general hospitals; and to impress on them the folly—nay, rather, the positive harm—of lending their names "*because they are asked*" and, we may add, because they are too good-natured and sometimes too indolent to refuse.

Annotations.

"Ne quid nimis."

THE METROPOLITAN HOSPITAL SUNDAY FUND DISTRIBUTION.

IN the course of a very brief report the Committee of Distribution appointed by the Council of this Fund have dealt with the claims of a hundred and seventy-six institutions and the awarding of £40,118. It appears that the investigation made by the committee has resulted in adverse criticism in sixteen cases, one of which proved upon examination by the light of explanations afforded by its committee to be open to no reproach and has accordingly received an award upon the full merit basis. The remaining fifteen have been less able to meet the criticisms of the committee Seven of them appear to have acquiesced in the strictures passed upon them, five others have tendered explanations but without fully convincing the Distribution Committee of their freedom from blame, and three have been altogether refused any participation in the Fund. It is well that these facts should be generally understood, for it is plain that the effect of such criticism must be most salutary, and the public will place confidence in the administration of the Fund when they perceive that the supervision exercised by the Council through the Distribution Committee is very far from being a dead letter. Another point of equal importance is that to which, in moving the adoption of the report, Sir Sydney Waterlow called attention—namely, that the awards are made not simply upon the basis of the work done by the various hospitals, but also and even more directly in proportion to their needs. Of two institutions doing practically the same amount of work one may stand greatly in need of help and the other in little or no need at all. It is most proper that this aspect of the case should receive the consideration of the Distribution Committee, and we should have supposed that it was generally understood that this is, and must be, the fact, if it had not been that the House of Lords' Committee manifests some imperfect appreciation of its being so. We have repeatedly stated this in the pages of THE LANCET, and have again and again explained the manner in which the committee proceeds; but there is still occasion to repeat the statement, since some, at least, whom it most concerns to understand these matters appear still to be under some misconception respecting them. In connexion with the Hospital Sunday Fund we may be allowed to express our gratification at the honour conferred by Her Majesty on the Lord Mayor in appointing him Knight Commander of the Most Distinguished Order of St. Michael and St. George. Sir David Evans has been most assiduous and courteous in all the functions of his high office, and has well sustained the character of the Mansion House, not only for hospitality, but for ready and sympathetic help to the needy in their distress. When honours are a reward for such services they benefit alike the State which gives and the citizen who receives them.

HEAT STROKE IN AMERICA.

THE phenomenal heat-wave which for upwards of a week visited the chief cities of the United States not only deranged traffic and business to a remarkable extent, but was the cause of much sickness and mortality. It was stated that July 28th was the hottest day that had been experienced in *that city for twenty-one years, and the death-roll then* was such as to exceed the highest mortality ever known in twenty-four hours. On the 29th a temperature of 107° in the shade was registered, the deaths numbered 223, including 111 children under the age of five. Although on the 30th there was a fall in temperature the death-rate still remained excessively high, and it is stated that the total mortality in New York for the week ending at noon on the 31st amounted to 1434. Similar reports came from Chicago, and the same intense heat, with all its attendant discomforts and dangers, was generally experienced in the districts east of the Mississippi. No doubt the effects were the more severe since associated with the excessive temperature there was an abnormal degree of moisture in the atmosphere. The effects of heat on the human organism are not only seen in the occurrence of heat apoplexy or sunstroke where the attack is sudden, the patient becoming comatose and hyperpyrexial, but in less severe cases it produces great nervous prostration and even cardiac depression. It was noted in New York that the worst effects were observed in the more densely populated districts of the city, and it is to be observed that not only did the human population suffer, but there was also a great mortality among the horses from the same cause—on one day as many as 1 in 5 of the horses employed by the tramway lines succumbing to the heat. As part explanation of these dire results it must be remembered that the conditions of life and habits of these large cities are ill-adapted to defend the inhabitants against such an abnormal rise of temperature.

"IN AID OF SICK CHILDREN."

ON Friday, July 22nd, there was held in the Edinburgh Music Hall an exhibition of wild flowers, gathered all over Scotland by children, to whom prizes were given for the most effectively arranged specimens. Sixteen hundred was the number of the juvenile competitors, and there were on view in the hall 1642 exhibits, of which no fewer than 881 were bouquets of wild flowers prepared by children; while there were, in addition, 185 bouquets arranged by seniors, to say nothing of 254 bouquets of grasses. The spectacle was admired by numerous relays of visitors of all ranks throughout the day, to whom it was matter of equal surprise and delight that the highways and byways, the mountain sides and the river valleys, the moors and the marshes, could be made to yield so rich an assortment of floral colour at once delicate and glowing, and that the artistic taste and neat-handedness that grouped the flowers in such a variety of graceful forms were so widely diffused among the humblest of the population. Nature herself was on exhibition in her freshest and most attractive *pose*, not only in her infinite wealth of outline and hue as represented by the flowers, but in the versatile contrivance and design manifested in the original, unsophisticated art of her child-votaries. Alternating with the vast array of hand-bouquets—combining heather, thistles, bluebells, wild roses, honeysuckle and white heather—were baskets and wreaths of the same, only less attractive in colour and arrangement; while the assortment of dried foliage from common British trees gave to the exhibition a scientific value dear to the botanical visitor. The prizes awarded by the umpires (among whom the chief place was appropriately held by Mr. Lindsay, curator of the Royal Botanic Gardens, and Mr. Dunn of the Palace Gardens, Dalkeith) amounted to 200, and consisted of watches, books and other articles of use to the fortunate competitors. But the real prize, in which all had more or less a share, was the education of mind and eye and hand conveyed in the gathering, the selecting and the arranging of the flowers into groups which by their artistic grace redoubled the native attractiveness of the flowers themselves, as they undoubtedly refined and stimulated the sentiment, the taste and the manipulative address that were expended on the handiwork. And having served this most valuable of educative functions, the articles comprised in the exhibition were finally put on sale and the proceeds, mostly of small sums for the bouquets and flower baskets, were devoted to the funds of the Sick Children's Hospital. The chairman of the exhibition, Mr. John Leng, M.P., announced that in seven years as much as £1321 had been contributed by such means to children's hospitals; and Sir William Muir, Principal of Edinburgh University, dwelt on the beautiful thought which sent the healthy children of Scotland over the hills and dales of the native flora to gather flowers in aid of their little brothers and sisters lying in hospital. Charity and education were thus made to go hand in hand, teaching the lesson that nature-worship and art and science are never so admirable as when linked with the sentiment of humanity. Among the most effective promoters of the exhibition was Mr. Charles Jenner, whose propagation of wild flower culture and domestic gardening among our urban and suburban populations has already done much to refine and sweeten their lives. A munificent contributor to the floral decoration of the exhibition and also to the funds in aid of which it was promoted, Mr. Jenner confirms and enhances the honour attaching to a name, well-known in days past as well as present for its association with the science and the art of medicine.

HOME FOR EPILEPTICS.

THERE was published in *The Times* recently an influentially signed letter calling attention to what it is hoped may one day develop into something like the well-known epileptic colony in Germany. The need for a home or refuge of some kind to which epileptics could be sent has long been felt by those who have been brought much into contact with such patients. Every convalescent home is closed against them, they are frequently incapacitated by their unfortunate malady from occupying positions for which in other respects they are well fitted, and they cannot be regarded, except temporarily, as suitable for treatment in hospital, even in those institutions which more particularly deal with such cases. A charitable lady, impressed with the wonderful success of the German colony, is making a laudable effort to imitate it in this country. A large house and grounds, we understand, have been purchased close to New Godalming, and the house has been suitably furnished to accommodate fifty or sixty patients. The management has been entrusted to a committee, but, although the house is now ready the committee do not consider it prudent to throw it open until at least £500 are in the bank ready to be applied to the maintenance of patients. An appeal is made to the public for this sum. We cannot too strongly recommend such an object to a charitable public, and we wish the promoters every success in their efforts to alleviate the miserable lot of some of the most unfortunate amongst us. The inmates of the home are to be all females, and one of the best features of the undertaking is that it will be, to a certain extent at least, self-supporting. The patients are to be provided with suitable employment and are to be encouraged to assist towards their own maintenance; so that on the one hand they may be benefited physically by the light work which they would have to do, and on the other retain that self-respect which the objects of charity too often lose. We cordially wish the scheme every success, and we trust that it may be the means of bringing hope and cheerfulness to many a miserable existence. Messrs. Coutts and Co., 59, Strand, will receive donations or subscriptions in aid of the institution, which is to be called "The Meath Home of Comfort for Epileptics."

THE SHELLEY CENTENARY.

THE anniversary of the hundredth year since Shelley's birth was solemnised on Thursday last at his native town, Horsham in Sussex, by the foundation of a "Shelley Library and Museum" as the most fitting memorial that could be raised in the poet's honour. The institution in question is destined to absorb the libraries already existing on the spot and "to be governed in such a manner as to secure the support of all sections of the community." In addition to general literature, every work bearing directly or remotely on Shelley will be included in the library, while the museum will offer a home for such personal relics of the poet as the committee may be able to acquire. As a man and as a poet Shelley had his failings and defects—the failings and defects of his special and in some respects unique qualities. He was too ecstatic to be always sound; too impulsive to be always wise. But he was a high-souled, self-sacrificing "paladin in the liberation of humanity," whose heart beat responsive to the yearnings of his brethren for "the ampler ether, the diviner air" of social and individual freedom, and whose services were ever at the command of any cause, desperate though it seemed, that strove to make "all men's good each man's rule." There is, we understand, a corresponding movement in Italy to commemorate the good work rendered by the poet during his brief stay on the Tuscan seaboard in 1821–2; and in the monument erected at Viareggio, to mark the spot where his dead body was washed ashore and recognised by his friend Byron, a tribute will be paid to his generous espousal of the Italian cause in those dark years that followed on the reactionary treaty of Vienna. Over and above the historic deeds that link his name with the peoples' emancipation, political, social and religious, of which the latter decades of the nineteenth century are witnessing the fruits, his writings reveal a philosophic spirit in harmony with the most momentous findings of science, a spirit which under happier auspices might have worked itself clear of the crudities and morbid developments that vitiated his teaching and retarded his mission. The Greek culture to which his moral and intellectual being took so kindly fed his mind and soul with influences that required only scientific sustenance to make their practical outcome and their literary expression sound and clear. How susceptible he was of profiting by such sustenance may be seen in the wonderful generalisation that struck the keynote of his philanthropic life:—

> "Nothing in this world is single;
> All things by a law divine
> In one another's being mingle."

What is this but a dim, poetic forecast of the axiom that the universe is indissolubly connected with its minutest parts—that "the simple germination of a lichen is, if we apprehend it rightly, linked directly with the grandest *astronomical phenomena, nor could even an infusory animalcule* be annihilated without altering the equilibrium of the universe"? The congenial gifts that made him one of the profoundest Platonists of his time doubtless prepared him for the teaching of the "Philebus" that the world is one huge animal organism, "the manifestation of some transcendent life, with which each separate individual life is related as is the part to the whole." It is the undeveloped potentialities of his rich and many-sided nature that make his career and his writings at once so interesting and so tragically pathetic, and that qualify the physician, even more than the votary of any other calling, to share with special sympathy in the memorial tribute intended to "perpetuate his name and inspiration in the locality of his birth."

THE FLY PLAGUE OUT OF DOORS.

LAST week we had occasion to discuss briefly some of the contrivances usually employed to combat the annoyance caused by house flies. We also noticed the fact that out of doors during the present hot weather a similar pest has to be encountered in a pre-eminent degree. Road, pasture, wood and mountain-side swarm with insects which attack the unprotected face the live-long day. The traveller cannot rest, the fisher cast his line, or the sportsman set himself to shoot but this Musca volitans, half a dozen at a time, is on his eyes. How best can the plague be met? Perpetual movement is impossible, and no degree of facial mobility would secure immunity; the hands have other duties. By common consent the veil, in one or other form, has been accepted as the surest and most ready means of defence. A correspondent mentions a visor of this kind as a suggested remedy. We cannot remember having met with this invention, but there seems to be no reason why it should not satisfy the needful requirements. Supported on a light wirework and made large enough to cover both head and neck, it could hardly fail to prove efficient. Still more simple is the contrivance adopted by our soldiers in Egypt—namely, a circular veil attached to the rim of the helmet, and falling down over the chest and shoulders. Health and convenience alike would gain by such additions to the armoury of comfort. That the bites of flies, in one at least of its species, may be the source of more than mere inconvenience has been already shown in our columns; and we record this week another example of the fatal results sometimes attending the attacks of these noxious pests.

SEASONABLE SANITARY WARNINGS.

A NUMBER of cautions are just now being issued by medical officers of health. Dr. Sedgwick Saunders in the City of London urges that care be taken as to water-supplies and as to milk. Diarrhœa is steadily on the increase, and in infants this often means contamination of milk in the wretched places in which it is stored—such as pantries opening out near dustbins. In the Trent Valley, certain inhabitants of the Gainsborough rural district are, notwithstanding the protests of Mr. H. Wright, the local health officer, and of the Local Government Board, still obliged to drink from the polluted river. In Essex Dr. Thresh issues notices of warning to the Maldon rural authority. In their district Latchingdon, Purleigh, Tiptree, Tillingham, and other places are in considerable difficulty. At Purleigh people who are willing to pay for a bucketful of water cannot get it; and all the while 40,000 gallons a day of excellent spring water near by at Danbury are running to waste. At Latchingdon the water is described as being like pea soup and as stinking. The truth is that many of the parishes in question are on the London clay, which is some 300 to 400 feet thick, water being procurable only by deep wells bored through it or by surface ponds. The latter are all failing. The springs at Danbury would supply a large number of hamlets if the water were impounded. This would necessitate some twenty miles of piping, but the boon conferred would be immense and the outlay doubtlessly in the end remunerative. Dr. Thresh has often given sound advice which has been followed with the best results, and we trust that his counsel in this important matter of a pure water-supply for the Maldon villages will receive the favourable consideration which it so evidently calls for.

TREATMENT OF HABITUAL ABORTION.

ASSAFŒTIDA has been recently recommended in cases of habitual abortion. Dr. Turazzo gives it in pills containing a grain and a half as soon as it becomes clear that a new pregnancy has commenced. At first only two pills are prescribed, but later on the number is gradually increased to ten daily. The treatment is continued until the labour is over, and then the daily dose is gradually diminished. By this method cases where as many as five successive abortions had occurred have been successfully treated, and where in one instance a miscarriage appeared to be imminent during the seventh month it was averted and the patient was delivered at full term.

THE ARROW POISON IN THE NEW HEBRIDES.

M. DANTEC has examined and experimented with the arrow poison used by the natives of the New Hebrides. He finds that it contains neither vegetable poison nor serpent virus, but consists of earth impregnated with vegetable matter taken from marshy places and containing Pasteur's *vibrion septique*, or bacillus of malignant œdema and also the bacillus of tetanus. If the arrows have been kept a long time or have been much exposed to the sun the *vibrion septique* may have been destroyed; the danger then is from tetanus. When the arrows have been freshly prepared and the *vibrion septique* is still active a wound from them causes death in a guinea-pig from septicæmia in from twelve to fifteen hours; tetanus, which takes longer than that period of time to develop, does not under these circumstances show itself. It is interesting to remark that the horse is unknown in these islands, consequently the theory of the equine origin of tetanus would seem to be negatived by these researches.

THE VALUE OF NOTIFICATION.

THE rural sanitary authority of the Newton Abbot Union have been urged by a deputation from the inhabitants of Torquay, Paignton, St. Marychurch, Ashburton, and Cockington to adopt the Infectious Diseases (Notification) Act. The matter was referred to their medical officer of health, Mr. Harvey, who advised against it. He may have excellent reasons for this advice. Thus, the authority may have no means of isolating cases of infectious diseases when they hear of them, or their sanitary staff may be insufficient to do the work which would become necessary as the result of the increased sources of information as to disease in their midst. But the reasons which have been published in the local press appear to be singularly defective. One is that a subordinate inspector of nuisances would be more useful than the knowledge which the Act would provide; another seems to be that "notification meant quarantine." We assume this to imply that an extra inspector might prevent disease, whereas notification would only give information after its occurrence. There is of course some reason in this; but everyone who has knowledge of a rural district must be aware that there are a number of diseases which are terribly fatal, which no action of a sub-inspector of nuisances can prevent. At all events, Mr. Harvey, knowing what is the state of the sanitary administration of this rural district, declares that notification would hardly be effective, and that it would lead to considerable expense. The latter plea, which tells also in the direction of there being many cases of disease to report, seems to have carried the day, for the motion to adopt the Act was rejected. Newton Abbot must apparently wait till the Act is made universally applicable.

FRENCH CHOLERA PRECAUTIONS.

THE Prefecture of Police for the Department of the Seine have at last issued precautions against choleraic diarrhœa. As regards the actual sick the advice is given under three headings :—1. As to restoring warmth to the patient. 2. As to combating diarrhœa. 3. As to staying the vomiting. Then follow a number of preventive measures dealing with the water supplies, cleanliness, &c., and with the isolation of the sick, the disinfection of ejecta and of infected localities. Simple medical prescriptions are given in detail, and there is a statement as to the whereabouts of ambulances and appliances for disinfection.

INHALATION OF OXYGEN.

DR. GONZALES ALVAREZ of Madrid, in a paper on "Oxygeno-therapeutics" (*La Independencia Médica*, June 23rd, 1892), states that he has found oxygen inhalations of peculiar value in many of the diseases of childhood. A tube from the washing bottle of the generating apparatus can be placed in close proximity to the child's mouth and nose so that respiration is carried on with air containing a large proportion of oxygen, and of course it does not matter whether the child is awake or asleep. This plan has been found very advantageous in congenital debility, in asphyxia of newborn infants, in early scrofula, and in anæmia arising from any cause. In phthisis in adults Dr. Alvarez appears to have had more success from oxygen inhalations than has fallen to the lot of physicians in this country who have tried them. He mentions, too, a grave case of malarial cachexia in which this treatment was remarkably successful, the extravasation of blood simulating purpura hæmorrhagica with extensive ecchymoses, epistaxis and melæna all passing off. Oxygenated water has also proved useful in the author's hands in many forms of gastric and throat disorder both in children and adults. Most patients cannot take more than a quarter of a glass without experiencing some nausea, but one old lady who suffered from dyspepsia and anæmia took for a considerable period a whole syphonful of the water with every meal, with the best results.

"MEDICAL HERBALISTS."

THE "National Association of Medical Herbalists" held its annual conference recently in Liverpool, and the President delivered an address which is certainly instructive, inasmuch as it gave some indication of "what they were, what they aimed to be, and what they desired to be." They are "medical dissenters" and they are employed by vast numbers as their "family medical advisers." They wish, in most praiseworthy fashion, to protect the people against unlicensed quackery; but *il faut vivre*, and the President has therefore made grave researches into the burning question of the penal clauses of the Apothecaries Act, and he announced, as the result, his belief that they were safe so long as they practised "without the assumption of medical titles." It is truly delightful to hear that we are not on the eve of a general convulsion of the universe; the "medical herbalists" are not advised to petition for the repeal of the old Acts, but they hope to level up until they gain some sort of official recognition. Here the logic becomes a little mixed. They proudly claim to have "erected no exclusive barriers," but they clearly hope to do so some day. They ask for no "selfish monopoly," but they denounce "the quacks who practise under the assumed names of herbalists." They are yet (until they get the official recognition they desire) anxious to confirm the "medical rights" of the people, meaning by this platform-sounding phrase that "whoever they, the people, should call in to attend them should have a legal right to do so, irrespective of school, professional caste, or therapeutic belief." "Medical herbalists" are so often heard of at inquests and in other official inquiries that we gladly welcome the news of their high aims and also most cordially agree with the resolution passed at this conference—viz., that it was not advisable for members to use *medical titles* unless the said titles were English and the members were legally entitled to do so. So long as they continue to "make war upon" and to denounce the fundamental principles of their opponents, the allopaths, it is really difficult to see what medical titles they could desire to assume. If it were not for the sadness of the conditions under which "medical herbalists" are mostly heard of, it would be possible to be vastly amused with this unconscious burlesque of the proceedings of other associations.

SCOTCH SANITARIANS.

THE eighteenth annual Congress of the Sanitary Association of Scotland has been held at Aberdeen. Delegates from upwards of a dozen Scotch towns were present and Dr. E. Duncan of Glasgow was appointed president of the Association. A number of medical men, sanitary inspectors, borough engineers, and surveyors were present. In view of the forthcoming discussion on the Public Health Bill for Scotland, it is very necessary that sanitary reformers should unite and come to a clear understanding as to what they desire. A complete measure is necessary, and the Scotch sanitary authorities should consist of persons technically qualified. Mr. Peter Fyfe of Glasgow, ex-president of the Association, read a long paper on the necessity of reforming the central sanitary administration of Scotland. He protested against the evils of extreme decentralisation and the optional character of sanitary legislation, and thought the direct responsibility should be placed in Imperial hands. Thus at Aberdeen, as well as at the meeting of the British Medical Association, the cry has gone up for a Ministry of Public Health. This coincides also with the unanimous demand of the French Workmen's Sanitary Congress. The day is therefore, perhaps, not far distant when in every civilised country there will be a Ministry of Public Health. In the meanwhile Scotland has not even a Local Government Board such as exists in England, and certainly in many important respects has not shared in the sanitary progress accomplished in England. There can be no doubt that a Scotch Public Health Act is much needed. The Sanitary Association of Scotland are doing good work in pressing this matter forward.

MORE DEATHS FROM GLANDERS.

LAST week we drew attention to the increasing prevalence of glanders and the consequent greater risks of human beings becoming contaminated from diseased horses, giving as some evidence of this the result of a coroner's inquest on the body of a woman who had resided over a stable in which were glandered animals, by which she was infected through using water carried in the stable bucket, it was supposed. On the 1st inst. another inquest was held at Hornsey on the body of a coachbuilder who had also succumbed to this loathsome disorder, which he had acquired from contact with a horse he had purchased for a few pounds and which had been allowed to die of glanders. Other cases of death among people from this equine scourge have come to our notice, and considering the extent of the malady among horses, especially in London, it is surprising there are not more coroners' inquests. It is to be apprehended that the disease will become still more extended, for though there is good reason to believe that only a few of the cases occurring are reported by the officials entrusted with the duty of suppressing some of the contagious diseases of animals there are indications that few of the large studs of horses are free from it; while it may be presumed that in the stables of the poorer class of cabmen and carmen infection is rampant. A few days ago one of the largest tramway companies in London was heavily fined for having eight glandered horses at one depôt (a driver in their employment had died from glanders), and an omnibus company has been summoned for the same offence. We have complained of the imperfect measures in force for dealing with the disease and the very lax manner in which they are carried out; and until the authorities are compelled to exhibit more intelligence and energy matters will certainly not mend. All glandered and farcied horses should be at once destroyed, and those animals which have been in contact or cohabiting with them ought to be treated as suspected and isolated from healthy horses. No sales or transfers of horses should be permitted from infected stables or studs, and compulsory notification of the existence of the disease should be imposed on horse-owners and veterinary surgeons. Inspection of infected stables and horses ought also to be carried out by independent authorities, who should also see that contaminated premises are properly cleansed and disinfected. All public water-troughs should be prohibited and horses watered with their own buckets filled from stand-pipes, which might be placed where the troughs now are or where the street water-carts are now replenished. Whatever is done should be done quickly, for the present state of affairs, due more to apathy and indifference than ignorance, is most discreditable and injurious.

INTERCOLONIAL MEDICAL CONGRESS.

THE third session of the Intercolonial Medical Congress of Australasia will, as we have already announced, take place at Sydney, N.S.W., from September 26th to 30th inclusive. The president of the Congress is Dr. P. Sydney Jones, F.R.C.S., and Dr. Thomas Chambers is vice-president. There are five sections—viz.: 1. Medicine, including Pathology and Diseases of the Skin, presided over by Dr. Jas. Robertson of Melbourne. 2. Surgery, including Diseases of the Eye, Ear and Throat, of which the president is not yet announced. 3. Midwifery and Diseases of Women and Children; president, Dr. W. Balls-Headley of Melbourne. 4. Public Health, to include State Medicine, Forensic Medicine, Psychological Medicine and Demography; president, Dr. H. H. Whittell of Adelaide. 5. Anatomy and Physiology; president, Dr. H. Brookes Allen of Melbourne. The honorary secretaries of the Congress are Dr. T. P. Anderson Stuart and Dr. Samuel T. Knaggs.

CHLOROFORM FATALITY AT A DENTAL HOSPITAL.

AT the Coroner's Court, Dale-street, Liverpool, an inquest was held on the body of Sarah Smith, a woman aged thirty-four. The patient had been suffering from toothache and sought advice at the Dental Hospital, Mount Pleasant, where she was seen by the house surgeon, Mr. Gilmore. She was told all her upper teeth and some of the lower were decayed and required removal. An appointment was made for her to attend on the following day, and the house surgeon requested Dr. J. E. Gemmell to attend to administer an anæsthetic. The woman's husband vainly endeavoured to dissuade his wife from the operation, as he considered she was a very delicate woman, upon whom the shock would act prejudicially. He appears, however, not to have communicated his apprehensions to Dr. Gemmell; and as that gentleman, after examining the patient considered her sound, chloroform was administered. Dr. Gemmell in his evidence says he gave the anæsthetic slowly, and when thirty drops had been taken her pulse became weak and she had an epileptic fit, during which the heart failed. A necropsy revealed a flabby heart and enlarged diseased kidneys. We find no mention made of the posture of the patient or whether her clothing was removed. Dr. Gemmell, as an expert and careful anæsthetist, can hardly be made to bear the brunt of this accident, although we think he probably would have acted wisely to have selected another anæsthetic and, if necessary, had the operation divided. The question whether the patient was a known epileptic appears not to have been asked. Possibly we should understand the fit to have been epileptiform.

SIR JOSEPH LISTER.

LAST week this most distinguished surgeon—whose name is synonymous with modern advance in scientific surgery, and who, by his observations and discoveries in the application of the antiseptic treatment of wounds, has added a lustre to British surgery which will never die—closed his career as a clinical lecturer in King's College. According to the regulations of that institution a professor must, except at the special request of the Council, on attaining the age of sixty-five, resign his professorial duties, although there i no apparent diminution of his mental or physical energy Sir Joseph Lister seems as active and able now as when twenty-three years ago, in the midst of his early experiments on antiseptic dressings, he resigned his chai of Systematic Surgery in Glasgow to become the successo of Syme in the Clinical Surgery chair of Edinburgh University. The authorities of King's College, recognising th eminence and great ability of this distinguished surgeon, hav so far relaxed the rules of the institution that they hav determined to retain his services in the wards of the hospita for another year, his duties as a clinical teacher, however being transferred to younger hands. His last lecture consisted of an excellent *résumé* of the present aspect of th essential parts of the antiseptic treatment of wounds. A the conclusion he spoke with some degree of sadness of th termination of his course as a lecturer, and expressed to th students the hope that in the practice of their noble profession their main object would be to promote the good o their fellow men—a principle which Sir Joseph Lister has eve had present to his mind during his long and brilliant career.

THE PROGRESS OF CHOLERA.

WHILST cholera continues to make advances in Eastern Europe there is reason to believe that it is still confined t Russian territory. The outbreaks in Galicia and in Roumania ar not only denied, but no further intelligence of an incriminatory character has followed the original statement as to its existence in these countries. Warsaw may or may not be a sea of the disease, but otherwise even Poland seems as yet to b free. Still there is a steadily increasing diffusion of th disease in South-Eastern and in Eastern Russia, the tendenc of the diffusion being more and more in the direction o Central Russia. In the Astrakan district and south of th Caucasus some diminution in severity and in the numbe of those attacked is apparent; but, on the other hand, very severe outbreak is in progress in the towns bordering on the north-eastern portion of the Sea of Azo and on the river Don, and a number of fairly central provinces, such as Poltava, Voroniej, Tambov, Riazan Orel and Moscow have been invaded. Western Russi as yet remains free. In the Don territory the Government of Rostoff is severely affected, and it is stated that i the last day of July there were no less than 1055 attacks an 447 deaths. The epidemic in the vicinity of Paris show signs of abatement. Both in Paris, at St. Denis, at Gones and at Clichy fresh and fatal attacks are still occurring, b in these places and at Donneval the tendency seems to b towards a diminution of the outbreak. In Persia the epidemic has markedly subsided at and near Meshed. E cases have occurred at Yezd and a smart outbreak has taken place on and near the south shore of the Caspian Sea, where Resht, Enzeli, Lahijan and Mengil remain seats of the disease.

HEALTH OF MR. GLADSTONE.

We understand that the illness from which Mr. Gladstone has been suffering during the past week was a feverish bronchial catarrh. On Thursday he was sufficiently recovered to be able to be present in the House of Commons to second the motion for the appointment of Mr. Peel as Speaker of the House.

THE OPENING OF PARLIAMENT.

The thirteenth Parliament of Queen Victoria was opened on Thursday by Royal Commission. The opening ceremony took place as usual in the House of Lords, where there was a large attendance both of members and of the general public. The proceedings, which lasted only a few minutes, were entirely formal. In the House of Commons the Right Hon. Arthur W. Peel was nominated Speaker for the fourth time. The nomination was made by Sir Matthew White Ridley and seconded by Mr. Gladstone, while words of congratulation were offered by Mr. Balfour.

GRADUATION DAY AT EDINBURGH.

"Quæ regio in terris nostri non plena laboris?" was never more justly the boast of the Edinburgh School than on Monday last, when no fewer than 263 students in medicine, representing every quarter of the habitable globe, closed their academic curriculum, duly qualified to practise throughout an empire on which the sun never sets. The influx of students to her medical class-rooms, which received so great an impetus since the memorable tercentenary celebration of 1884, reached its height two or three years ago, and an unprecedentedly small number of students were registered at the opening of last winter session. So far as can be foreseen the causes of this decline are not likely to be weakened in force. The efficiency of the metropolitan and provincial schools will probably increase. Many of the teaching and examining bodies of these qualifying centres are Edinburgh men, but it is no consolation to that *alma mater* any more than it was to the mythical deity—that it is her own children who devour her. The resuscitated activity of the older English universities is another cause which impairs the prestige of Edinburgh on the side where she used to be exceptionally strong. As Sir G. M. Humphry indicated in a recent paper the preliminary training that can be offered by Cambridge, and, we may add, by Oxford, nowadays is not to be surpassed by any seat of learning north of the Tweed. Nay, we believe the thorough and systematic grounding to be obtained at these schools is, thanks to their tradition of *multum non multa*, intensive rather than extensive culture—a distinct point in their favour, which is gradually becoming appreciated by an ever-increasing public. The formation of a young and energetic university in the north of England and the vigour displayed by the authorities of the University of Durham have also begun to tell their tale. With such formidable competition in the early stage of professional study, Edinburgh presents no countervailing advantages in the opportunities afforded by her cliniques, for the number of beds at the disposal of teachers however eminent is unfortunately limited. Practical medicine will seek its qualifying experience rather in the metropolitan and great industrial centres than in comparatively stationary provincial capitals whose population does not multiply in equal ratio.

FOREIGN UNIVERSITY INTELLIGENCE.

Berlin.—Dr. Strassman will undertake the duties of the chair of Forensic Medicine during the next semester, no appointment having been made since Professor Liman's death. Dr. Siemerling of the Charité has been promoted to an extraordinary professorship of Mental Diseases.

Bern.—Dr. von Speyer has been appointed Extraordinary Professor of Mental Diseases.—Dr. A. Santi has been recognised as *privat-docent* in Dermatology and Syphilis.

Buda-Pesth.—Dr. Ernö Emil Moravcsik has been promoted to an Extraordinary Professorship of Forensic Medicine.

Cordova (Argentina).—Drs. Pinero, Mariño and Freyre have been appointed professors.

Gratz.—Dr. H. Buchner of Munich has declined the offer of the new Professorship of Hygiene.

Kazan. — Dr. Fenomenoff, Extraordinary Professor of Gynæcology and Midwifery, has been promoted to an Ordinary Professorship.

Kiel.—Dr. Georg Hoppe-Seyler has been appointed to the chair of Medicine.

Montpellier.—The chair of Medical Chemistry has been declared vacant.

St. Petersburg (Medical Academy).—The principal, Professor Pashutin, having gone abroad, his place has been taken by Professor N. P. Ivanovski. The selection made by the professorial senate of Professor Bellin of Kharkoff for the chair of Forensic Medicine has not been approved by the Government, who have appointed Dr. N. P. Ivanovski, the acting principal, who has hitherto held the chair of Pathological Anatomy, which chair has been conferred on Professor Vinogradoff of Tomsk.—Dr. Trapesnikoff has been recognised as *privat-docent* in Syphilography in the Military Medical Academy.

Tomsk.—Dr. Repreff has been promoted to the Ordinary Professorship of General Pathology; Dr. Obraztsoff of Kazan has been appointed Extraordinary Professor of Dermatology and Syphilis.

Vienna.—The professorial senate have unanimously recommended Dr. Richard Freiherr von Krafft-Ebing *unico loco* as successor to the late Professor Meynert in the professorship attached to the First Psychiatric Clinic in the General Hospital.

Warsaw.—Dr. Tauber, Professor of Operative Surgery and Topographical Anatomy, who was deputed by the Russian Government to report upon the English and Scotch Schools of Surgery (*see* The Lancet, *vol. i., 1890*, p. 857), has been appointed to the chair of Clinical Surgery.—Dr. Vassilieff has been recognised as *privat-docent* in Surgical Pathology and Dr. Sienez as *privat-docent* in Special Pathology and Therapeutics.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

The deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Valerian Podwysotski, Professor of Pharmacy and Pharmacognosis in the University of Kazan, at the age of sixty-nine. The deceased professor was originally a lawyer and as such held various official positions; and it was not until he was nearly fifty years of age that he began the study of medicine at Dorpat, where, after taking his doctor's degree, he became assistant in the Pharmacological Institute and *privat-docent* in the University. From thence he was called to the professorship at Kazan. He wrote a good deal in the medical journals on various topics connected with pharmacognosis, amongst which may be mentioned emetin and podophyllin.—Dr. F. L. Thuran, formerly Inspector of the Odessa Sanitary Council, at the age of eighty-five.—Dr. G. W. J. von Düben, formerly Professor of Anatomy in the Caroline Institute, Stockholm, in his seventieth year. After completing his medical studies at Lund in 1844 he was appointed by the Academy of

Sciences to the *Prinz Karl* during an expedition to Africa, India and China. After his return he became Professor—first of Pathological and afterwards of Normal Anatomy—at the Caroline Institute. His chief work is on Lapland and the Lapps. He was also for many years editor of the chief Swedish medical journal, *Hygeia*.—Dr. Hermann von Meyer, formerly Professor of Anatomy in Zurich, at the age of seventy-seven.

WE have to announce the death on the 2nd inst. of a well-known surgeon, Mr. Samuel Armstrong Lane, at the great age of ninety. Mr. Lane was for many years lecturer at the Grosvenor Place School of Anatomy and was elected surgeon to St. Mary's Hospital on its foundation in 1852. It was mainly due to him that the Medical School attached to St. Mary's Hospital was opened in 1854 and to him must be largely attributed the success which it has attained. Mr. Lane was for many years a member of the Council and of the Court of Examiners of the Royal College of Surgeons. He had retired from practice for some years past but to the last he took the greatest interest in all matters relating to his profession. Those who knew "Honest Sam," as he was called by his contemporaries, will remember him as an upright, kind and sincere friend, a sound, thoughtful surgeon, and a practical and earnest teacher.

WE regret that pressure on our space prevents us giving an account of the first general meeting of the British Association held in the hall of the United Presbyterian Synod, Edinburgh. The President, Sir A. Geikie, was introduced by Dr. Huggins, and delivered the presidential address on the subject of the origin of the earth. He referred in this connexion to the views of James Hutton communicated to the Royal Society in 1785, and which Playfair had succeeded in popularising. The views of Werner, of Sir James Hall and Lord Kelvin were subsequently detailed. The address was listened to with the deepest attention, and it was generally regarded as one of the most interesting discourses on geology ever delivered. Lord Kelvin moved, and Lord Provost Russell seconded, a vote of thanks for the address.

ON Capping Day, August 1st, 169 new graduates were enrolled on the scroll of the Edinburgh University. Dr. Pringle presided at the dinner of the Edinburgh University Club at the Holborn Restaurant in the evening. The attendance, considering the time of year, was large. Dr. Pringle made an able speech on the University and on the club itself. The toast of his health was proposed by Sir Edward Sieveking, and heartily responded to. The music and other entertainments of the evening were exceptionally good.

OWING to the spread of the cholera epidemic, an order has been issued from the Ministry of Education of St. Petersburg prohibiting the resumption of examinations in all educational establishments until Sept. 1st next. Also the lectures to medical students in their last term are not to be continued until Nov. 1st, so that students may be free to offer their services in the cholera districts.

THE following names have been added to the list of honorary presidents for the International Congress of Obstetrics and Gynæcology:—England: Drs. Robert Barnes and Thomas Keith, Mr. Lawson Tait and Professor John Wallace. Scotland: Drs. Murdoch Cameron and Berry Hart. Ireland: Drs. Arthur V. Macan and More Madden.

PROFESSOR RUDOLF VIRCHOW was elected Rector of the University of Berlin on Wednesday evening, August 3rd.

THE Queen has been pleased to appoint Sir William Stokes, F.R.C.S.I., Professor of Surgery, Royal College of Surgeons Ireland, to be Surgeon in Ordinary to Her Majesty in Ireland, in the room of William Colles, Esq., M.D., deceased.

THE John Lucas Walker scholarship in Pathology at Cambridge University will shortly become vacant by the election of Mr. Kanthack to the medical tutorship of the University College Medical School at Liverpool.

THE
BRITISH MEDICAL ASSOCIATION.
MEETING AT NOTTINGHAM.

IN the Obstetrical Section on Friday, the 29th ult., Mr. Knowsley Thornton opened a discussion on the Treatment of Uterine Fibroid Tumours. He held that the treatment of these depended on their structure, situation and symptoms. If the tumour be small it was absolutely unnecessary even to tell the patient of its existence, as her peace of mind was disturbed. He considered that the treatment by electricity was highly unsatisfactory. In the more severe cases he advocated the operations of hysterectomy or oöphorectomy, and only decided when the abdominal cavity had been opened. Dr. Murphy of Sunderland was in complete accord with Mr. Thornton's statement, but thought that he underrated enucleation per vaginam, and related an interesting case where four tumours had been removed from the same woman during a period of five years. Mr. Lawson Tait also agreed with Mr. Thornton's conclusions, but was surprised that he had been so lenient on the electrical treatment. Dr. Horrocks stated that he had obtained very satisfactory results from the electrical treatment and had never seen a death from hæmorrhage in a case of fibroid tumour, and believed the mortality of the operation to be higher than that from the morbid condition. Drs. Tidy, M'Clure, Leith Napier, Michie and Bishop joined in the discussion.

IN the Public Health Section Dr. Tatham of Manchester, the senior medical officer of health present, presided in the absence of Sir Walter Foster, M.P. Dr. Willoughby read a paper on the Nomenclature of Notifiable Diseases. He very justly condemned the tendency to disguise the truth by speaking of "varicella" instead of "small-pox," of "scarlatina" instead of "scarlet fever," "diphtheritic throat" or "croup" instead of "diphtheria," and "septicæmia" instead of "puerperal fever." The result of so doing was that strict isolation and efficient disinfection were neglected. He demanded that definitions should be more strictly applied and suggested that measles be included among the diseases for notification. Dr. Groves said that when certificates were given for the benefit of the Government departments these departments ought to pay for them. Dr. Boobbyer testified to the good results from notification and isolation, and Dr. Tew of Nottingham pointed out that in rural districts the medical officers were practically required to assist in the diagnosis of all doubtful infectious cases.

THE interest taken in the question of the admission of women to the membership of the Association was evidenced by the large attendance at the extraordinary general meeting held on the 28th ult. The tone of the speeches of the mover of the resolution (Dr. Galton) to expunge the words from Article 4 of the Association declaring females ineligible and the consequent alteration in the by-laws, and of Mrs. Garrett Anderson, who seconded the resolution, was moderate and their arguments well sustained. We have no doubt that the meeting, in the decisive vote it passed in favour of the resolution, was influenced by the temperate manner in which the subject was brought forward, and although Mr. Lawson Tait hinted at the possibility of the decision being reversed at the confirmatory meeting which is appointed to be held on the 24th inst., we do not imagine that this will happen.

DR. F. A. DIXEY of Oxford read a paper on the Influenza Epidemic of 1891-92 and connected the epidemics with the winter season and special meteorological conditions; while, on the other hand, Dr. Whitelegge argued that the weather had no influence on the epidemic.

THE discussion in the Psychology Section on insanity as a plea for divorce, raised by Dr. Weatherly, although brief, was of importance on account of the fairly unanimous agreement in favour of the plea being sustained in cases of incurable insanity, and after a specified period of time had elapsed since either party had to be placed under legal care and control. Dr. Weatherly in his remarks placed this period at seven years; but Mr. Stewart considered this too short and that it should be at least ten years. The same speaker also pointed out that the legal and medical definitions of insanity were not in accord. It may be noted, however, that such experienced alienists as Dr. Hack Tuke and Dr. Rayner expressed their dissent from Dr. Weatherly's views.

THE outspoken remarks of Professor Gairdner in the Therapeutic Section upon the manner in which new remedies are introduced to the notice of the profession, and the total lack of machinery for scientifically testing their value, will be endorsed by all who feel how much the true interests of the medical art are made to suffer from this growing evil. It is much to be regretted that he should have felt it incumbent on him to resign his position as President of the Therapeutic Committee, but he took the opportunity of the sectional meeting to explain the grounds on which he had acted. He admitted that the main reason for his withdrawal was that the policy which he had advocated—namely, that of obtaining satisfactory inquiries on a large scale upon the action of remedial agents—had not been seconded by the branches; whilst his proposed establishment of local committees of inquiry was frustrated partly by lack of publicity. The reason for this involved considerations of policy outside those of pure scientific inquiry.

THE social functions in connexion with the meeting at Nottingham comprised three garden-parties, two conversaziones, the annual dinner, and an "at home." A brilliant assembly of the members of the Association and townspeople of Nottingham took part in the conversazione at the University College, given by the Mayor and Corporation. The Association was also entertained by Mr. Leaver, J.P., and Mrs. Leaver at the Hermitage. During the week excursions took place to Buxton and to Lincoln, where Viscount Oxenbridge heartily welcomed the party. At Denton Manor Sir William Welby acted with similar hospitality. Belvoir Castle was visited, and the members were hospitably entertained by the Duke of Portland at Welbeck Abbey and at Haddon Hall by the Duke of Devonshire.

THE annual breakfast given by the National Temperance League to members of the Association took place on the 28th ult. in the Albert Hall and was well attended. The chair was taken by Mr. T. E. Ellis, M.P., and speeches were delivered by the Chairman, Professor Horsley, Mr. Pearce Gould, Dr. Norman Kerr, Dr. M. Cameron and Dr. Cohen.

THE GENERAL MEETINGS.

WE resume our report of the proceedings of the British Medical Association meeting held at Nottingham last week.

EXTRAORDINARY GENERAL MEETING.

Admission of Women to the Association.

At an extraordinary general meeting of the Association held in the Albert Hall, Nottingham, the question of the admission of women to the Association as members was considered. There was a large attendance, and the tone and feeling of the meeting were very pronouncedly in favour of the proposal.

Dr. S. H GALTON moved that Article 4 of the Articles of Association be altered by expunging the words "No female shall be eligible for election as a member of the Association." Dr. Galton said that out of 140 medical ladies 22 were graduates of the London University. For eighteen years they had borne with this disability. He appealed to them to join with him in removing it from their articles, for it was a blot upon the fair fame of the Association, it was a stain left from the high tide of rank prejudice, and he hoped that the righteousness of Nottingham would wipe out the injustice of Bath.

The resolution was carried *nem. con.*

We understand that an extraordinary general meeting will be held on Wednesday, August 24th, at 2 o'clock, at the offices of the Association, to consider and, if thought necessary, to confirm this resolution.

THIRD GENERAL MEETING.

Address in Surgery.

At the third general meeting Dr. W. H. HINGSTON, of Montreal, delivered his address on Surgery, which was published in our last week's impression. The address was well delivered and well received.

At its conclusion Mr. LAWSON TAIT (Birmingham), in moving a vote of thanks to Professor Hingston, said no better example of the progress of surgery in Canada could have been presented to them than in the person of Professor Hingston. The professional work of the Dominion was quite equal to anything in Europe.

Mr. JOHN CROFT seconded.

The Profession and the Local Government Board.

Mr. D. B. BALDING moved, in accordance with notice, "That, in the opinion of this Association, the decision of the Local Government Board in reference to the case of the late Mr. Walters of Cheltenham was unjustifiably severe, and that it is incumbent on this Association to use its best endeavours to procure a reconsideration of the case."

After conversation a suggestion to refer the matter to the Parliamentary Committee was agreed to.

The meeting afterwards adjourned.

FOURTH GENERAL MEETING.

The Address on Bacteriology.

The interest of the annual meeting culminated in the able and eloquent address which was delivered by Dr. German Sims Woodhead. At its conclusion—

Surgeon-Colonel HARVEY moved that the best thanks of the Association be given to Dr. Sims Woodhead for his address, which was full of interesting information. Bacteriology had so developed that it required experiments to pursue it. The great *raison d'être* of the profession was to heal the sick, but the love of science would not give a man food and raiment or help him to meet the exigencies of life. The man, he said, who teaches the bacillus should live by the bacillus.

Dr. EDDISON (Leeds), in seconding, said this was the first occasion on which an address on this subject had been delivered at this Association. What struck him about Dr. Woodhead's address was the way in which he constantly emphasised, not what he had done, but what other men had done.

Experiments on Living Animals.

Mr. HUTCHINSON then moved a resolution in the following terms: "That this general meeting of the British Association records its opinion that the results of experiments on living animals have been of inestimable service to man and to the lower animals, and that the continuance and extension of such investigation is essential to the progress of knowledge, the relief of suffering, and the saving of life." He said it was scarcely necessary to move a resolution which he believed to be a simple truism. He thought that the agitation which prevailed some twenty years ago against vivisection was rapidly and steadily dying out. Most of them had been brought into contact here and there with little attempts of vexatious opposition, which sometimes fell with peculiar severity upon one or two hapless individuals. There was about to be held a congress of clergymen at which this subject would be brought forward, and medical men had been invited to take part in the discussion. He had not the slightest objection to clergymen discussing that question. Some of the leading members of the profession had been invited to take part in the discussion, but they had declined. Sir James Paget had declined, and so had Sir George Humphry, on the ground that the discussion was not one in which those educated in medical matters could meet clergymen on common ground. They were right; they did not object to its being discussed, but it was useless to talk to people, however well informed on other matters, on a subject of which they could have but little knowledge. The British Medical Association, he hoped, representative as it was of all branches of the profession, would pass this resolution unanimously. They were not personally engaged in this work, but they could understand what valuable results were obtained from it. It was a matter of duty and of justice that the Association should stand by those who had performed experiments and who had thereby incurred considerable odium, and perhaps in some instances even damaged their reputation and success in life, in consequence of their appearing in public as advocates of this method of investigation. He was one who for twenty years past had never made any experiment on living animals. He had nothing to do with that department of investigation and he spoke for the large majority of those present at this meeting; but it would be a matter of cowardice if they stood aside and did not back up thoroughly those who were engaged in the pursuit of the clinical and particular aspects of the profession, or if they failed to express their deep gratitude to those investigators. As practical men the profession availed themselves of their discoveries. They applied their knowledge, and therefore they were bound to stand shoulder to shoulder with them. They were not only doing that which is not cruel, but they were doing their duty and conferring inestimable services upon the progress of science. They claimed to go before the laity and say the medical profession is a profession of humane men to whom every form of cruelty is detestable. We are fairly well informed as to the scientific aspects of this question. It is, indeed, part of our duty to be informed; and it is only common sense that you, the laity, who do not possess the especial information that we do, should listen to us. He did not object to legitimate forms of restriction. Indeed the medical profession was glad, if there should be some erratic individuals in whom the sentiment of humanity was lost in a matter of this kind, to have judicious State legislation. In this there was no cruelty, because nothing came under that definition which had for its object the diminution of suffering. Sir William Gull was asked by a lady if he did not consider experiments on animals as cruel. "Madam," he said, "there is no cruelty comparable to ignorance." Of course there would be in the medical profession a very small minority who would object.

The resolution was carried unanimously. This concluded the business of the general meetings.

THE SECTIONS.

MEDICINE.

Ascites.

Dr. W. J. TYSON read a paper on Ascites. "In reading over the subject of ascites in various text-books there is an absence of a good description of those cases which for a better name may be called 'simple ascites.' There always will be, and I think there ought to be, an objection made to the word 'ascites' without an accompanying distinctive adjective designating the cause of the ascites. In the same way one should object to the word 'meningitis' or 'peritonitis' as a final diagnosis. This is not at all a matter of sentiment, for the constant use of the above words as indicating a disease instead of a symptom lead some men to be satisfied with this, and hence in many cases the real cause of the disease remains untreated. The class of case to which I wish to call the attention of the members is that in which no cause can be discovered to account for the ascites, and yet with ordinary treatment of diuretics and aperients, with tapping if necessary, recovery takes place. Two cases lately under my care at the Victoria Hospital, Folkestone, will illustrate the class to which I am referring. A. B——, a boy aged sixteen, was admitted on July 6th, 1891, with a good family history; he was quite well until his present illness, which commenced two months back with enlargement of the abdomen, which had been gradually increasing. On admission there was very considerable ascites, the abdomen measuring at umbilicus thirty-one inches in circumference, and between the umbilicus and ensiform cartilage thirty-three inches. There was no valvular disease, but the heart's apex was pushed up, beating opposite the nipple. There were signs of pleuritic effusion in both pleural cavities as high as the angles of the scapulæ. There was no œdema in the legs or scrotum. The urine was non-albuminous, pale, with a specific gravity of 1006. The treatment adopted was the outward application of linimentum hydrargyri, whilst internally the patient was given tincture of digitalis with acetate of potassium; he was kept in bed. After a month all the ascitic fluid had disappeared and he became apparently quite well and has remained so since. The second case was that of a woman aged twenty-two, who had been married for six years, and had never had any children or any miscarriages. Her family history is a good one; her father, mother, two brothers and three sisters are all living and well. In 1884 she had typhoid fever, at which time the abdomen swelled, but went down again and, she stated, it has remained more or less swollen up to the present time of admission into Victoria Hospital on May 3rd, 1892. On admission the abdomen measured in circumference at the umbilicus thirty-seven inches and a half and it was very much distended. No cardiac, lung, or kidney disease could be discovered. On account of the great distress in breathing it was necessary to use paracentesis on May 10th, when twenty-two pints of ascitic fluid were drawn off. After the operation the abdomen was carefully examined for any enlargement &c., but nothing was found to account in any way for the ascites. The circumference was now twenty-nine inches at the umbilicus and has remained the same up to the present time. She was treated from the commencement of her stay in the hospital with digitalis, iodide of potassium and sulphate of magnesia, and Addison's pills night and morning, but with no result until after the tapping, when the urine passed, and was rapidly increased in quantity. The two foregoing cases are only examples of a large number, in which the ordinary explanations of ascites are absent, for there is no cardiac, pulmonary, renal or hepatic disease present which would account for the ascites—not that we must forget that cases of ascites, when due to the foregoing causes, frequently get well, for I feel sure that our hospital experience often is fallacious as regards prognosis, inasmuch as the disease upon which the ascites depends occurs in subjects of much lower vitality, and therefore less under the influence of treatment, than those met with in private practice. I know of two cases of ascites, one due to kidney disease, the other due to cardiac disease, in which immense distension of the abdomen existed for some weeks. In the first there has been no return of the dropsy for six years, although a large quantity of albumen is still passed; and in the second there has been no return for a twelvemonth. But in the so-called simple cases, to which I am particularly referring, the prognosis is very hopeful. Of course there is a cause to account for the ascites in the cases, but it is very difficult to find. Some of these, no doubt, are tuberculous in origin, others perhaps are due to that most convenient of causes—namely, exposure to cold. Still the important fact remains that there are a fair number of cases of ascites to which no cause can be assigned and which on treatment get perfectly well."

SURGERY.

Discussion on the Surgery of the Liver and the Gall-bladder.

The discussion in the Surgical Section of this subject took place on Thursday morning and was opened by Mr. Mayo Robson. He said his conclusions were based on a personal experience of seventy cases of operation and upon many others in which no operation had been performed. He divided his paper in two sections, the first dealing with those injuries and diseases of the liver amenable to surgical treatment, and the second with gall-stones. Injuries of the liver attended by free and dangerous hæmorrhage can be successfully treated by exposing the injury either through an already existing wound or by an abdominal incision and plugging the liver and wound with iodoform gauze—a drainage-tube should be afterwards inserted and the external wound closed. Abscess of the liver is a more common disorder than is generally believed. He had met with several cases and had dealt with some of them by operation. The diagnosis of this condition was always difficult and sometimes impossible until the abdomen had been opened. When the abscess has been found by an exploring needle the abdomen should be opened and the liver carefully sewn to the parietal peritoneum before opening the abscess cavity. In some cases this is impracticable, and then the cavity of the abscess should be cleaned carefully and thoroughly packed with iodoform gauze through the open external wound. Mr. Mayo Robson showed a simple and rapid way by which a drainage-tube can be introduced into an abscess of the liver where a patient is too ill to allow of the more systematically arranged operation. Free drainage is the real secret of success in these cases. Abscesses of the liver which have opened into the pleura, lung, pericardium &c. should be treated at their source by hepatotomy. A subphrenic abscess may be best opened through a lower intercostal space. Hydatid cysts are most safely dealt with by hepatotomy. Statistics prove that this operation gives better ultimate results than puncture. Other varieties of cysts are met with—examples of which were given in detail and the nature of some of which it is difficult to understand. *Excision* of a part of the liver has been successfully practised and may be called for in a limited number of cases. Mr. Robson thought that the elastic ligature would be found of service in this operation. He approved of the principle of exploratory working in all doubtful cases, and referred to some in which tumours, solid in their nature and malignant in their naked-eye appearances, have entirely disappeared after this procedure. Mr. Robson had operated in more than fifty cases of cholelithiasis with a mortality of three cases only, and each of these had been complicated by malignant disease. None of his simple cholecystotomies had died at all. He referred at length to the many disorders for which gall-stones are mistaken and gave examples of such cases which had been under his care. It was of first importance to locate the exact presence of gall-stones, and he thought in most cases this could be done. He referred to the occasional occurrence of pain in the left side and in the left scapula, and explained this fact by the presence of adhesions to the stomach. Sounding for gall-stones by acupunture needles he regarded as dangerous, and aspiration of a distended gall merely for purposes of investigation was not to be commended. He referred to the free bleeding, which is often seen during operations on jaundiced cases, and recommended the previous administration of chloride of calcium as an internal hæmostatic. With regard to the operation of cholecystotomy, he thought the operation in which the opening in the gall-bladder was sewn to the external wound was better than the ideal operation, in which the opening in the bladder was sewn up and the whole returned into the peritoneal cavity. When it becomes necessary to open the cystic duct, suture of the opening to the parietal peritoneum or the introduction of a large drainage-tube are the best procedures. He does not recommend supra-pubic drainage, as advocated by Mr. Knowsley Thornton. Gall-stones in the common duct may be crushed with fingers or forceps and left to pass into the duodenum. Cholecystectomy is occasionally a necessary operation, but should not be performed unless absolutely indicated, and when jaundice is present it should never be performed. Cholecystenterostomy has been successful in his hands and occasionally called for. It is best made into the duodenum and by means of a new form of decalcified "bobbin," which he described.

Mr. LAWSON TAIT agreed entirely with the views enunciated by the previous speaker, many of which were confirmatory of views advanced by himself a few years ago. Difficulties of diagnosis are constantly encountered and stand in the way of treatment. Hepatotomy is a safe operation if performed early enough. Delay gives the operation its dangers. Resection for cancer had no sympathy from him. In his operations for gall-stones death had only occurred in cases where cancer was also present. Gall-stones do not form again after operation, and cholecystectotomy is therefore rarely necessary. He was glad that Mr. Robson had confirmed a previous statement of his (Mr. Tait's) that certain tumours of the liver which looked like cancer occasionally disappeared in a mysterious way after a simple exploratory operation. Mr. Tait presented a table of cases which showed twenty-one exploratory incisions with four deaths, eighteen hepatotomies with two deaths, and seventy-one cholecystotomies with four deaths.

Mr. JORDAN LLOYD called attention to the importance of diagnosing before operation, not only the presence, but the exact locality of gall-stones, for the reason that the dangers of cholecystotomy depend more upon the position than the number, size or chemical composition of the stones. Cholecystotomy is a safe operation so long as the calculi can be removed through the opening made in the gall-bladder; but if the common duct has to be opened because of the position of the stone and the contracted condition of the gall-bladder the risks of the operation are enormously increased. Such a diagnosis can usually be arrived at by bearing in mind, firstly, that hepatic colic without subsequent jaundice and without a tumour, as a rule, locates a stone strictly within the gall-bladder; secondly, that hepatic colic, without subsequent jaundice, but with a subsequent tremor, locates a stone within or at the mouth of the cystic duct; thirdly, that the hepatic colic, with ague-like paroxysms, rigor, high temperature and sweating, followed by jaundice, locates a stone in the common duct. If a tumour be not present the gall-bladder is probably puckered up by chronic inflammatory changes. Persistent jaundice, generally, is the equivalent of malignancy.

Mr. CHICKEN thought that in abscess of the liver the method of wound dressing was of great importance. He said that most liver abscesses were divided up by soft interlacing trabecule, which required thoroughly breaking down before free drainage could be secured.

The PRESIDENT said that these cases are, as a rule, brought too late under the surgeon's notice. He thought that the present satisfactory results should encourage physicians and practitioners to call in the aid of the surgeon at an earlier period.

Dr. GEORGE HARLEY said that physicians and surgeons had a common object—to cure disease; and in liver disorders each of them looked at their cases from a different standpoint. Surgical operation should be the very last measure to be adopted. He believed that the large majority of liver cancers were secondary to gall-stones.

Mr. BRUCE CLARKE referred to the two methods of treating hydatids by tapping and by drainage. He called attention to the fact, too, that hydatid cysts could be shelled out of the liver substance if they had not been left long enough to form strong adhesions. The early operations in these cases would always be the more satisfactory if only for this reason.

Mr. F. EVE referred to a case of actinomycosis of the liver which he had diagnosed during life and which might have been removed by operation. He referred also to a curious form of loculated abscesses which he had seen, and suggested that these tumours which disappeared after simple exploratory operations might have been nævi.

Mr. MAYO ROBSON, in replying, thanked the members for their patient hearing. He said that when an incised duct cannot be closed by suture drainage with a large tube will suffice. The mortality of all cholecystotomies ought to be less than 5 per cent. The tumours which disappeared could not be nævi for the reason that they were quite hard, like scirrhus when examined with a finger or a needle.

The discussion then terminated.

A paper was read by Mr. EWENS on Overgrowth of the Inner Tuberosities of the Tibia as a cause of Genu Valgum independent of Elongated Inner Condyle of the Femur, illustrated by photographs. Having alluded to the silence of some eminent surgical authorities on this subject, and the slight reference as regards the distinction between this affection and other forms of genu valgum made by other writers, Mr. Ewens directed attention to two cases by which his observations were illustrated, in which the inner tuberosities of the tibia were enlarged and elongated without any corresponding change in the inner condyle of the femur.

Mr. E. LUKE FREER read a paper on the Treatment of Scoliosis. He stated that in his opinion the two chief causes of scoliosis were: bad positions acquired at school or work during childhood and adolescence, and muscular debility. In Birmingham he found that a large number of cases occurred among the working classes, and to these cases he gave the name of "Trade Curvatures." He held very strongly that when once a curvature was developed to the extent of bony alteration no cure could be effected, although the curvature could be prevented from getting worse. The principles of treatment which he adopted were those enunciated by Dr. Roth, consisting in the practice of what might be called medical gymnastics. This treatment, which he had for years adopted, could not be carried out satisfactorily in Birmingham, in consequence of the necessarily imperfect hygienic conditions of a large town, but the very best results were obtained from it when practised at Llandudno, where he now resided. The treatment consisted in an improvement of the general health in the correction of bad postural positions and in the re-education of weakened muscles by systematic exercises. Mr. Freer gave a detailed account of the exact course of muscular training through which he caused his patients to pass.

OBSTETRICS.

Post-partum Hæmorrhage.

Dr. HERMAN, on opening a discussion on the subject of post-partum hæmorrhage, emphasised the importance of compression of vessels as the rational means of stopping hæmorrhage. For prevention of hæmorrhage the main points were (1) avoidance of delivery when the uterus was inactive; (2) careful supervision of the third stage of labour. In treatment he advised (1) kneading by the abdominal hand. If this did not succeed, (2) putting the hand in the uterus to make sure that it was empty; (3) washing out the uterus with hot water. If these means failed, persistent bi-manual compression of the uterus. The application of cold he considered a temporary substitute for kneading. Putting the child to the breast was a useful and harmless adjuvant. The injection of perchloride of iron brought with it danger of (1) sudden death from distension of the uterus, (2) embolism, (3) peritonitis, (4) septicæmia. It left the uterus filled with clot. Although its effect was to check hæmorrhage, yet it sometimes failed. It was therefore neither safe nor certain. Packing the uterus with gauze sometimes failed, brought with it danger of entrance of air into veins, and the uterus could not properly contract when filled with gauze.

Dr. JOHN BYERS read a paper discussing the question, "Does Chloroform promote Post-partum Hæmorrhage?" In this paper the author, while pointing out the great advantage of chloroform in obstetric practice, draws attention to the fact that it is not so frequently employed by accoucheurs as might have been thought to be the case. In explanation of this circumstance two reasons are assigned and discussed:—1. The deterring effect produced on the profession by the alarming and disastrous results which have too often followed the use of chloroform in surgical practice. 2. Its alleged effect in promoting post-partum hæmorrhage. In support of this view he discusses the two arguments usually put forward—(*a*) The teaching of authorities; (*b*) personal experience. In reference to (*a*) he shows that there is no unanimity amongst teachers on this point, and hence the question can only be settled by (*b*) personal observation and experience. He shows the fallacy of the argument that, because chloroform was given and hæmorrhage followed, it was cause and effect—the *post hoc ergo propter hoc* style of reasoning—and argues that the great majority of cases of alleged flooding after delivery occurring when the anæsthetic was used can be explained as being due, not to the chloroform, but to rapid delivery and to a want of proper management of the third stage of labour. Those who take the other view must, when they report cases, give all the details of them—such as the age of the patient, the number of her previous confinements, the extent to which, and the method by which, the anæsthetic was given, the cause for which it was employed and the plan of delivery and the method employed in the management of the third stage of labour. In conclusion the author gives his own experience of an extensive and increasing employment of chloroform in obstetrics, which warrants him in stating that this anæsthetic has no effect in causing post-partum hæmorrhage, provided that in all cases care is taken not to effect delivery too rapidly and also to manage the third stage of labour according to modern teaching.

In the discussion which followed Dr. WALTER (Manchester) had much pleasure in hearing Dr. Herman's paper, and as so many members wished to take part in the discussion he would confine his remarks to three of the methods of treatment referred to by Dr. Herman in dealing with post-partum hæmorrhage arising from inertia of the uterus. 1. The intra-uterine injections of hot water was a mode of treatment which he had frequently tried; and whilst in many cases it would be found to act efficiently yet it was not always reliable. Much, however, depended upon exactness in the temperature used, as had been amply proved by the experiments of Max Rünge on animals, which showed that uterine contractions followed if the temperature of the water used was from 112° to 115° F., but if the temperature was raised above 120° F. no uterine contraction followed, the muscular fibre remaining paralysed. In those cases where hot-water injections failed Dr. Walter had often found that injections of vinegar and hot water in equal parts were followed by permanent uterine contraction. 2. Dr. Herman had spoken of the difficulty attending the use of electricity; this he had also found to be the case until he discarded all the ordinary batteries and used instead a small, but very powerful, magneto-electric machine, made for him some years ago by Weiss, with an intra-uterine electrode that unscrewed into four pieces and fitted into the box. The coarse interruptions produced by this machine had a remarkable power in inducing uterine contraction. 3. Intra-uterine plugging with gauze was not a method which he could advise, unless after abortions or miscarriages, when the expansile power of the uterus was limited. In one case, in which he had seen the uterus plugged after labour at full term, the uterus expanded after the plug had been inserted and hæmorrhage recurred. On removing the plug and washing out the uterus with hot water and vinegar the hæmorrhage was at once checked.

Dr. CULLINGWORTH thought there was a danger of the main object of the discussion being lost sight of. It was of great importance that we should have clear and definite rules for treating ordinary cases of post-partum hæmorrhage. The first step to take is to endeavour to excite uterine contraction by external manipulation. If this fails the aseptic hand should be passed into the interior of the uterus, the cavity emptied and the external manipulations supplemented by internal. Should the hæmorrhage continue the next means to employ is injection of hot water, at a temperature not lower than 110° F. The water should be injected in considerable quantity and the nozzle should be inserted sufficiently far to ensure the whole inner surface of the uterus being bathed with the fluid. It will not be often that these methods will be found insufficient to check the hæmorrhage or that recourse will be necessary either to plugging the uterus or swabbing with iron. He wished to enter a protest against Dr. Murdoch Cameron's suggestion that the vagina should be plugged. He had hoped that this method of treatment was as obsolete as it was dangerous. He agreed with Dr. Byers as to the absence of any clear evidence that chloroform exerts any influence in promoting post-partum hæmorrhage.

DR. ROBERT BARNES advocated the seizing of the uterus with the hand, the injection of hot water, and in extreme cases of perchloride of iron, which he had found of the greatest benefit. He was satisfied of the benefit to be got from ergot.

Dr. WILLIAM DONOVAN said: "I have practised obstetrics continuously for the past twenty-four years, and am able to say that I have not had in that time a serious case of post-partum hæmorrhage. I look on post-partum hæmorrhage as the revenge of an outraged uterus. The uterus, like other muscular structures, when overstrained loses for a time the power of contracting. If the uterus is allowed to go on contracting after the fœtus has ceased to advance with the pains we are preparing the way for an attack of hæmorrhage. If we give ergot to force the uterus to still more active contraction we are only increasing the danger. In my opinion ergot should never be given in a case of difficult labour, and I have no hesitation in expressing my strongest disapproval of the heroic (to say the least of it) manner in which certain practitioners have recommended its use. I consider ergot not only useless but absolutely dangerous, and, given in the enormous doses recommended by certain men, improper and unscientific. When I find that the head does not advance with the pains and that there is an arrest for, say, half an hour, I invariably put on the forceps and deliver the head; then I give the uterus time to contract on the trunk and lower limbs, assisting their expulsion gently. The legs and feet I allow the uterus to expel without assistance. If this plan is followed the uterus will contract and expel the placenta. I think it a safer and better practice to allow the uterus to do this itself; and if this is done I think there will be little danger of post-partum hæmorrhage. The sudden emptying of the uterus by a quick withdrawal of the lower limbs of the child and worrying of the uterus immediately after by compression or expression all favour hæmorrhage. I am inclined to agree with Dr. Playfair when he says that 'he looks with suspicion on the obstetrician in whose practice post-partum hæmorrhage occurs often.' The points I wish to lay stress on are—Never force a willing uterus. Help it all you can; do not worry it with ergot. If the child remains unmoved, with pains of fair strength, put on the forceps, do not hurry over the delivery of the body and limbs, and leave the placenta alone; do not press and knead and worry the tired uterus. If you are inclined that way give a dose of ergot. When the head is delivered give the uterus time to recover after the strain of expulsion, so that it may gather contractile power to expel the placenta, or, at least, to force it into the vagina; after that take it away. As to the question of chloroform increasing the tendency to hæmorrhage I think there is no ground for the fear. Do not give ergot, it is a bad and dangerous substitute for the forceps. Remember the old saying, 'Never spur a free horse,' and of all things, assist nature, and do not *force* her, and when you do assist, do not half do it—do not allow the uterus to exhaust itself so that it loses its power to contract, and, far worse, have post-partum hæmorrhages, and do not worry it with compression and kneading, or it may take *its revenge* and relax."

Mr. E. STANMORE BISHOP (Manchester) said: The question of post-partum hæmorrhage was one of what was called, in surgical parlance, concealed hæmorrhage, and in treating it a surgeon would naturally first think of a tourniquet. The ultimate process upon which we depended was the deposition of fibrin in the open vessels, and it was useless to expect this as long as the full force of the heart's action was driving blood through them. Although blood was apparently coming from innumerable jets the supply to the uterus, from which it was derived, was only through two main arteries, the uterine and ovarian. The uterine—the larger—arose from the internal iliac, and therefore was controllable by pressure upon the aorta near or above the sacral promontory, the most easily reached point. The ovarian artery, although arising higher up, was practically in the grip of the surgeon who held the fundus uteri. If, therefore, the ulnar surface of the closed left hand be pressed firmly against the aorta, compressing it against the spine, whilst the right manipulated and kneaded the uterus, the whole blood-supply was under control. This was not mere theory, the speaker having seen the blood gushing freely one moment and stopping suddenly as though the tap had been turned off directly this manœuvre was executed; and this not once, but more than fifty times in cases where the patient was utterly blanched by the suddenness and severity of the flood. The aortic pulse, which could scarcely be felt at first, gradually came back, becoming slowly firmer and stronger, until it beat with normal force against the proximal side of the hand; whilst no loss, or scarcely any, occurred whilst the pressure was kept up. This procedure was productive of several good results. It gave time to the patient to recover; it dammed up the blood in the upper half of the body, so keeping up the vitality of the more important organs; it gave time for fibrinous plugs to form in the patent vessels; it allowed the exhausted muscular fibres of the uterus—the ligatures, so to speak, of the vessels—time to recover their contractile powers, and it permitted the surgeon, if necessary, to apply with more ease and power any local hæmostatic measures he might deem advisable.

Dr. WALTER of Manchester read a paper on a case of Tubal Gestation in which both tubes were gravid, with recovery after operation, and showed the specimen as well as drawings. On August 7th, 1891, Mrs. S——, aged twenty-nine, was admitted into St. Mary's Hospital for Women, complaining of abdominal pain, painful defecation and painful menstruation. The patient had been married ten years and had had five pregnancies, the last four years previously. In July she menstruated as usual, but the periods in May and June were missed, during which months she suffered from morning sickness, pains in her breasts and abdominal pain during defecation, and in the month of June she could not leave her bed. The physical signs on her admission to hospital proved the uterus to be normal in size and position, but its mobility was slightly impaired. In the left broad ligament and close to the uterus was a mass the size of an orange, but owing to the tenderness that existed the swelling could not be accurately outlined. No swelling existed on the right side. Abdominal section was recommended, but before the operation could take place the hospital had to be closed for repairs, and the patient returned home. She again came to the hospital on Dec. 14th, 1891. There was no alteration in the physical signs, and she menstruated regularly. She was suffering, however, from bronchitis, and her cough was very severe and frequent; on this account the operation was again postponed. On Feb. 19th, 1892, she was readmitted and it was then found that she had missed a period in January, but began to menstruate on Feb. 17th, or two days before admission, and that during the seven or eight weeks of amenorrhœa she again suffered from sickness. On Feb. 21st, her period being over, a physical examination was made; the swelling in the left broad ligament was found to exist as before, but in addition a swelling could now be felt on the right side and behind the uterus. The uterus was still normal in size. It was decided to operate on Feb. 26th, and on the afternoon of Feb. 25th the patient was given some aperient medicine; during the evening her bowels acted five times, and at 11 P.M. she was suddenly seized with abdominal pain and vomiting; her pulse was 110 and very weak. She quickly rallied and, with the exception of increased abdominal tenderness and rigidity of the muscles of the abdominal wall, no alteration was found to have taken place in the physical signs. The next morning abdominal section was performed and a quantity of fluid and clotted blood was found loose in the peritoneal cavity. Both tubes were found enlarged, distended with blood-clot and closely adherent to the neighbouring parts. The uterus was normal in size and position. The right tube and ovary were removed together. The tube on the left side was removed also, but the ovary was not disturbed, it being closely adherent to the side of the pelvis at some distance from the tube. The abdominal cavity was irrigated with hot water and a glass drainage-tube inserted. The abdominal incision was closed with silkworm-gut sutures, and dry dressings of corrosive sublimate wool were applied over the wound. The patient made an excellent recovery and left the hospital on March 26th. On July 26th, 1892, she reported herself to be very well, and stated that soon after leaving the hospital she was able to perform her own housework and that she menstruated regularly. In a note appended to the paper Mr. Bland Sutton says: "As far as my knowledge of the subject extends this is the first indisputable example of a tubal pregnancy occurring concurrently in both Fallopian tubes of the same individual. There are three cases in which it was probable that this accident had happened, but the facts are not completely demonstrated—viz., Dr. T. Rowan (*Australian Medical Journal*, 1890, p. 265), Mr. A. Doran (*British Medical Journal*, 1891, vol. ii., p. 789), and Dr. Savage (*British Medical Journal*, 1892, vol. i., p. 556)."

P.S.—Since the above report was written an undoubted case of bilateral tubal pregnancy has been published by Mackenrodt. (*Zeitschrift für Geburt. u. Gyn.*, Bd. xxiii., Heft i.; *Die Verhandlungen der Gesellsch. für Geb. u. Gyn.*, at Berlin, s. 301.)

Morbid Conditions of the Fallopian Tube.

Dr. CULLINGWORTH gave a special lantern demonstration on some of the more common Morbid Conditions of the Fallopian Tube in the physics lecture theatre of University College. The room was well filled. The slides, most of which were coloured, were about twenty-five in number, and consisted of illustrations taken from actual specimens of the conditions known as hydro-salpinx, pyo-salpinx, and hæmato-salpinx; also of tubercular disease of the Fallopian tube, of suppurating tubo-ovarian cysts, and of tubal gestation. The drawings had for the most part been made immediately after the removal of the parts from the body by operation, and therefore while the tissues retained their natural colour.

PUBLIC HEALTH.

Hospitals for Infectious Diseases.

Dr. H. TIMBRELL BULSTRODE, of the South-Western Fever Hospital, London, read a paper on Hospitals for Infectious Diseases. He condemned wooden and corrugated iron huts, and, while demanding better hospitals, thought there should be a graduated charge for admittance. He believed that in many fever hospitals the nursing was not good and many of the nurses had no special training. The utmost should be done to tempt patients to come to the hospital. Dr. Bulstrode concluded by advocating the creation of a Ministry of Public Health.

Dr. BOOBBYER, Medical Officer of Health of Nottingham, said that payment for admission to the fever hospital had been tried and found to be a failure. It was now left to the goodwill and good feeling of each patient, and one gentleman had recently and voluntarily given three guineas a week. But at Nottingham there was the strongest feeling against accentuating class distinctions, yet they tried to put the clean, respectable, decent patients in one ward. The removals of notified cases amounted to 85 per cent. last year; the number of fresh cases in the houses from which patients had been removed amounted to only 3½ per cent.

Dr. **Hill** of Birmingham thought the idea of payment for fever hospitals altogether exploded.

Dr. **Groves** (Isle of Wight) pointed out that in health resorts they were especially liable to the introduction of infectious disease, and yet its notification might frighten people away and ruin the locality.

Papers were read by Dr. W. L. **Hunter** on Small-pox in Pudsey a Century Ago; Dr. G. **Scott Tew** on Endemic Typhoid Fever; Dr. J. C. **Thresh**, on Notification of Erysipelas and Puerperal Fever.

Dr. R. **Pringle** mentioned a district in India where 95 per cent. of all the population was marked with small-pox; but where vaccination was practised that malady had been kept out. These assertions were confirmed by Surgeon-Colonel Hardy.

PSYCHOLOGY.

Neural Action corresponding to the Mental Functions of the Brain.

Dr. **Francis Warner** opened the discussion on the above subject. *He argued that during the period of inhibition there* occurred a bracing together of those nerve cells of the cortex which were concerned in the production of the microkinesis, and that this bracing together was antecedent to the purposive movement which followed. When a bright object was placed before an infant a few months old, upon many successive occasions, it was found that the purposive movement to clutch at it which followed the exhibition of the object occurred much more rapidly after a few days than at first, and this, he concluded, was dependent upon the development of a more intimate connexion between nerve cells than had originally obtained.

Mr. **Bevan Lewis** (the President of the Section) considered that Dr. Warner's conclusions were based upon sound observation and were substantially correct. He also pointed out that these signs of attention were of real use in diagnosis, that it is characteristic of alcoholics that the signs of attention are exaggerated, that attention itself cannot be long maintained, and that these points are of assistance in diagnosing this condition from general paralysis of the insane, for in the former there are marked twitchings about the brow and upper part of the face.

Dr. **Mickle** *contended that the action which resulted from* a stimulus was largely dependent upon congenital structure. The mechanism concerned in swallowing was inherited from parents, and in like manner was that concerned in producing the more complex movements to which allusion was made.

Dr. **Rayner** made a few remarks.

Dr. **Campbell** maintained that will and attention could be brought into one line. In support of this he stated that all parts of the body are represented in the higher cortical centres, and that if we examine carefully the accompaniments of any simple act of attention certain changes would be found in the part to which attention is drawn. He claimed that during a voluntary act attention was emphatically directed towards the muscles, and that consequently attention and volition are both related to the dynamic changes in the parts.

Dr. **Warner**, in replying, stated that at birth idiots did not present normal spontaneous movements, and that in these subjects they were either absent or irregularly grouped together, and spasmodic in character.

Dr. **Harry Campbell** read a paper upon Minor Psychical Disturbances in Women. He began by saying that cases such as he was *about to describe came to the London* hospitals in their thousands, and that they very rarely if ever became insane. Such patients were, as a rule, not hysterical. The symptoms which he described in detail were as follows:—(1) Depression of spirits, worse in the morning, often relieved by weeping. He discussed the reason why such depression should be worse in the "cold grey dawn," as one of his patients expressed it, and considered that it was largely due to the antecedent sleep. In one-third of his cases, however, depression was worse in the evening. He considered that the principal cause of the symptoms was abnormality of blood plasma and of blood pressure, and that ptomaines and other morbid bodies had an important influence. He discussed the question as to how far the nerve-cells themselves were healthy. He thought that recovery depended rather upon the building up of impoverished blood than upon the repair of any defective nerve structure.

Dr. **Urquhart** (Perth) thought that the study of borderland cases was of the utmost value in the study of insanity. In speaking of morning depression he alluded to the sad and gloomy words of self-depreciation used by Ruskin in concluding one of his works, which words were written in the small hours of the morning.

Dr. **Robertson** (Edinburgh) alluded to the anabolic activity of the cortical cell during sleep, so that the cell was built up again for further work. He argued that under morbid circumstances the contraction of the bloodvessels might hinder access of red blood discs to the cells, the capillaries being so contracted that the nerve-cells might be in part deprived of oxygen during the hours of sleep, resulting in exhaustion of the cells. This might be the cause of the depression and mental pain occurring shortly after sleep.

Dr. **Francis Warner** thought that delusions and ocular illusions were more common than Dr. Campbell had stated, and that hospital patients withheld them for fear that they should be considered insane.

Dr. **Dunn** (Wakefield) considered that in hospital patients *the principal cause of the depression was a deficiency* in the supply of food-stuffs to the brain, as in the morning food had not been taken for a long time, and that he had found an early breakfast valuable in relieving depression.

Dr. **Johnston-Lavis** (Harrogate) said morning depression was common in Italy where late breakfasts were taken. He found that it was also to be met by giving caffein, which caused increased circulation, deficient quality being made up by increased quantity.

Dr. **Campbell**, in reply, said the question of whether delusions were common was dependent upon the nature of delusions. He thought that many persons of late had suffered from political delusions. The influence of coffee, he thought, was a striking confirmation of Dr. Haig's views on the question of morning depression, that it was due to excess of uric acid in alkaline blood during the "alkaline tide." Caffein undoubtedly decreased the alkalinity of the blood. He considered that Dr. Haig's explanation was correct in many cases of morning depression, but it *did not* by any means explain all.

Dr. **Macpherson** read a paper entitled "Remarks upon the Influence of Intestinal Disinfection in some forms of Insanity." After some preliminary remarks as to the harm that is often done by narcotics in acute cases of insanity he stated that he had found brisk purges often of great value, especially in warding off recurrent attacks. The visceral symptoms in melancholia were next alluded to, and these had suggested to him the *means* described for their removal. He began upon a suitable case by washing out the stomach, the administraion of calomel at night, followed by a laxative in the morning, and then regular doses of some antiseptic. He had tried naphthalin and β-naphthol, and found the former the better. Nitrogenous diet was restricted and peptonised gruel administered. The lecturer had found prolonged treatment essential to success, and then quoted in some detail four cases, in all of which decided improvement followed the treatment described, which he thought could be only ascribed to this treatment. Thirty other cases were also summarised. In no case was the general health interfered with; in most cases the body weight increased steadily—in no case did it fall. Sleep was very markedly improved, and this improvement was maintained without increasing doses of the drug, and was never followed by increased restlessness; in no case was there any change in the nature of the mental symptoms, and it did not shorten the *period of illness*, but it modified the illness materially, lessened the motor irritability and the tendency to suicide, and generally ameliorated the symptoms. Dr. Macpherson considered the drug safe, for though it failed in some cases it, as a rule, promoted nutrition and induced a normal sleep while the psychical disorder was not affected.

Dr. **Goodall** thought the influence of toxines was one of increasing interest. He considered that the naphthaline would hardly injure the micro-organisms if it reached them, but he doubted whether it ever did so. He stated that the French observers had shown the difficulty of destroying saprophytes of the intestinal tract with reagents more powerful than the naphthaline in the doses used.

Dr. JOHNSON-LAVIS related a case in which he had advised intestinal disinfection after general treatment had failed. Calomel was regularly administered with marked success. He also quoted another case in which obstinate constipation, associated with chronic mental derangement was relieved by the injection of mentholised oil.

Dr. ROBERTSON agreed with the remarks of Dr. Goodall as to the importance of ptomaines in insanity. He stated that it was not necessary to destroy the germs, but only to limit their functional activity. At Morningside they had used β-naphthol with advantage and he had seen it successfully employed by Dr. Voisin in Paris.

Dr. RAYNER thought the treatment was likely to be of great value.

Dr. URQUHART said that twenty years ago he had tried hyposulphite of soda for a similar purpose, but it had not been satisfactory. He suggested the use of eucalyptus.

Dr. MACPHERSON replied. He thought that Dr. Goodall was incorrect when he alluded to the failure of naphthaline to disinfect the intestinal tract. It had been shown by competent authorities that the combined sulphates vanished from the urine after administration of repeated doses of naphthaline; that, moreover, in such cases the fæces were entirely devoid of smell.

Dr. FRANCIS WARNER enumerated the chief points of a report of the committee appointed to investigate the physical and mental condition of children in schools. The results given were obtained from the examination of 50,000 children. Some of the more notable of the conclusions were as follows: As regards nationality it was found that the Irish children presented a proportionately greater number of developmental defects, their nutrition was poorer, and the number of dull children was greater and they had a greater tendency to nervous disturbance; whilst the Jewish children were decidedly superior to the English in each of the above respects. As regards the social class, it was found that the poorer classes presented a superiority to the upper in nearly every respect, and that in comparing children within public institutions to those in Board schools it was found that though the former were, on the whole, better nourished, in other respects they were decidedly inferior to the latter.

Dr. RAYNER read Dr. Frank M. Pope's paper, entitled a note on the Establishment by the Leicester School Board of a special Class for Feeble-minded Children, in which interesting details of the formation and management of this class were given.

Mr. CLARK, President of the Nottingham School Board, alluded to the large number of children of the upper classes who presented physical defects, and said that he considered that this was due to these children escaping, through social advantage, the struggle for existence. He thought that the improved morality of Jewish parents and the care which their religion demanded as to food, was largely the cause of their superiority over English children.

Dr. SHUTTLEWORTH congratulated the Association upon the work done by its committee, and hoped that the committee would be encouraged to accumulate more information, especially in the north of England.

Dr. RAYNER moved and Dr. LINDSAY seconded a resolution to the effect that the Council be invited to publish Dr. Warner's reports.

PATHOLOGY.

Dr. ADAMI (Cambridge) contributed a paper upon the Variability of the Bacteria. He pointed out that while it was generally held that the species of bacteria are definitely fixed, possessing properties that are constant, year by year more investigators are recording facts not in harmony with this view. The subject is one of such great importance that he had repeated a large number of the observations made by Schottelius, Laurent, Gessard, Charrin, Wasserzug, and others upon the variability of chromogenic bacteria &c. and had determined their correctness. He demonstrated variations occurring in the bacillus pyocyaneus, B. ruber (Kiel), B. ruber (Plymouth), microbacillus prodigiosus, M. indicus, sarcina erythromyxa and torula rubra, and showed that the amount of modification impressed upon the microbe and the durability of the same depend upon the extent to which the media of growth, temperature &c. are modified. A comparatively slight alteration of environment, if continued over several generations (or more truly cell multiplications), or a powerful stimulus applied for but a short time to one generation, may bring about the production of a race which for months—that is to say, countless generations—retains the acquired characters and would seem to be permanent so long as it is propagated upon ordinary bacteriological media with ordinary precautions. Dr. Adami pointed out that while this was true it could scarcely be said that a new species had been developed in that a further alteration of environment might bring about reversion to the type. While the ordinary media of the bacteriologist might suffice for the growth and preservation of characteristics of both race and type, and while on these the race might show no tendency to reversion, an alteration of the media &c. in the direction of procuring optimum conditions of growth tends towards such reversion. Evidently therefore there must be not a little latitude in our conception of species among the bacteria; we must be prepared to discover considerable variations in the properties of any one species. The author then proceeded to show how these principles may throw light upon certain difficulties in connexion with pathogenic bacteria. He pointed out that, in addition to what we know as to the production of artificial races of pathogenic microbes, we possess a very fair body of evidence as to the existence of natural races of several species, and he considered that Cunningham's remarkable observations upon the various spirilla showing slight differences of mode of growth to be obtained from cases of cholera in Calcutta, Babes' and Cassedebat's pseudo-typhoid bacilli, Loeffler's pseudo-diphtherial bacilli &c., are all capable of explanation on the assumption that here we are dealing not with distinct species, but with races or modifications due to change of environment. He would, in part, explain the differences in the symptomatology of successive epidemics of one disease by differences in the pathogenic properties of the specific microbe, and in such diseases as diphtheria and typhoid fever would frequently see differences in the pathogeneity of the microbes gained from successive cases.

Dr. VAUGHAN HARLEY, Grocers' research scholar, read a paper on the Pathogenesis of Pancreatic Diabetes. This was another of the new school of chemical pathological papers in which the theory of the pathogenesis of the disease was not only supported by chemical data, but by clinical evidence, as well as by experimental pathological results, showing that whenever the pancreatic functions are totally destroyed a fatal form of diabetes is the result. The disease was shown by tables to be most common in the human subject in persons below the age of thirty. It was likewise shown that as the human body uses up every day in the performance of its normal functions from three to four pounds of sugar, and in the fatal form of the disease rarely more than one-eighth part of this amount is lost to the system by the urine, it cannot possibly be the sugar loss that kills, but some entirely different factor. As regards the cause of the disease, Dr. Vaughan Harley gave a variety of different kinds of clinical and experimental data, which he considered justified him in saying that the presence of sugar in the urine in cases of pancreatic diabetes most probably arose from a deficiency in the blood of normally present pancreatic glycolytic ferments to split up and prepare the sugar for the purposes of tissue nutrition; while the nerve prostration and great muscular weakness which are invariably associated with all cases of pancreatic diabetes, whether occurring as the result of disease in man or as the effects of operative procedures in animals, Dr. Vaughan Harley regards as mainly due to the retention in the organism of certain excrementitious substances, which, forming toxic leucomaines, act as ordinary poisonous materials do, and so interfere with normal tissue nutrition as to give rise to great functional disturbances and even end in death.

Dr. VAUGHAN HARLEY also read a paper on the Pathology of Obstructive Jaundice. In this communication, which embodied the results derived from a long series of chemical, pathological and experimental biological researches on the antagonistic effects, from a jaundice point of view, of ligaturing both the thoracic and common bile-ducts in animals, the author said the following justifiable conclusions might be drawn: 1. That, contrary to the accepted pathological doctrine, the bile which is eliminated by the urine and deposited in the skin and other tissues in cases of obstructive jaundice does not find access into the general circulation of the blood-capillaries at all. 2. In cases of obstructive jaundice it is the lymphatic system of vessels alone which absorbs biliary matters, and it is wholly and solely through the instrumentality of the thoracic duct that the bile finds its way into the bloodvessels. 3. After the thoracic duct has been for some time ligatured an adventitious supplementary chyle duct forms by the coalescence of either newly developed or pre-existing collateral lymphatics from a point of the thoracic duct below the seat of ligature, through which its chyle and lymph are transmitted into the right innominate veins, and thus perform vicariously the transporting functions of the thoracic duct. 4. These facts, taken collectively, account, first, for the absence of bile acid and bile pigment from the urine in cases of obstructive jaundice, when the thoracic duct is ligatured. Secondly, for the reappearance of both the bile acid and the bile pigment, in spite of the closure of the thoracic duct, in the cases where dogs lived sufficiently long for the lymphatic anastomotic communication between the duct and general circulation to develop. Thirdly, for the animals thriving so well after both bile and thoracic ducts had been ligatured, as well as conclusively showing that, as the blood capillaries had during the time these changes occurred been totally uninterfered with, they cannot be the agents of the absorption of the pent-up bile either from the hepatic bile-ducts or from the biliary appendages; while, on the other hand, they equally conclusively show that the absorption of bile is entirely dependent on the lymphatic system of vessels. 5. As bile is freely eliminated by the blood capillaries, though it is not absorbed by them, this proves that the endothelium of the blood capillaries has only the power of permitting bile to pass through it in one direction. 6. That after the common bile-duct is obstructed the constituents of the pent-up bile do not pass out of the bile tubes and gall-bladder, to be absorbed by the lymphatics, in the same relative ratio; but, on the contrary, the mucin and cholesterin remain behind and become far more concentrated than either the lecithin, fat, soap, or taurocholate of soda. And this fact probably explains why cholesterin gall-stones are so much more commonly met with in the human subject than any of the other varieties. 7. That from the hepatic bile capillaries branch out fine bile canaliculi among the liver cells, some of which are seen to enter and to terminate in the interior of individual hepatic cells in blind extremities. 8. As the dogs experimented upon not only lived, but gained in weight, after bile was prevented finding access into their intestines, I am led to the opinion that under judicious feeding the presence of bile in the intestines is neither necessary to the digestion nor assimilation of certain alimentary matters, and consequently not indispensable to life. 9. That ligaturing of the thoracic duct in dogs not only prevents obstructive jaundice occurring after ligature of the common bile-duct, but that it actually checks the signs and symptoms of jaundice after they have appeared.

Researches in Cancer.

Dr. H. SNOW read a paper on Cancer. In further illustration of his discovery that mammary carcinoma insidiously infects the marrow of the bones, Dr. Snow exhibited a sternum and part of the humerus from a patient with that disease. He pointed out the opaque-white colour of the infected marrow and the decalcification of the bony structures. The development of "the sternal symptom" (a slowly progressive prominence of that bone between the second costo-sternal articulations) by lymphatic infection of an adherent thymus was referred to. The genesis of "melanotic cancerous disease" was next considered. This arose invariably from pigment-secreting cells. Under the common title "melanotic sarcoma" two distinct varieties were confounded. The first, affecting the eyeball, sprang from connective-tissue cells and was therefore a true sarcoma, not infecting the lymph glands *per* the lymphatic vessels. The second form was an epithelial product derived from the deep columnar cells of the rete Malpighii and, as usual with such, it quickly contaminated the proximal lymph glands. All cases of melanotic cancer growth on the integument belonged to this class; they commenced in the redundant epithelium of a pigmented wart or mole. A number of crayon drawings showing the transitional development of the latter species were exhibited.

Dr. SNOW further produced two series of coloured sketches, of which the first demonstrated the characters of rodent ulcer as a malignant reproduction of hair-follicle structure, with an origin from the cells of the outer root-sheath. The second illustrated the production of globes épidermiques, not by endogenous cell formation as formerly taught, but by the vacuolation of cells over a large area. The epithelial cells concerned had an inherent tendency to secrete mucus; the protoplasm of one or more of their several nuclei became gradually converted into a minute vacuole or intra-cellular cyst. This was the first stage of the globe formation. These vacuoles had lately been described by Dr. Armand Ruffer as parasitic bodies, but there was no evidence in favour of such a hypothesis. Traced further, the contents of the affected cells were seen to become more and more replaced by fluid, and eventually became blended into the laminated or imbricated corpuscles known as "globes épidermiques."

DISEASES OF CHILDREN.

Ringworm.

Dr. PHINEAS ABRAHAM read a note on Ringworm and its Treatment. He alluded to the legion of published "cures" concerning which each author had virtually cried "Eureka!" but, in spite of these certain cases of tinea tonsurans were still as intractable as ever, and mentioned a method of treatment which for some years past he had found very useful. An ointment, containing carbolic and salicylic acids (of each half a drachm to one drachm to the ounce), was rubbed in with a stiff brush twice daily, the scalp being shaved occasionally, kept closely cropped and always greasy, a cap being worn and changed daily, and the head washed with an antiseptic soft soap once a week. A number of cases had thus been cured in a comparatively short time though the majority has required several months. Additional applications, after washing, of carbolised liniment of iodine, have occasionally been made in obstinate cases or mercuric chloride or iodide (one to two grains to the ounce) has been added to the ointment. The doctor's experience had been that the more intractable instances had occurred in blonde children and in girls, and two of the most troublesome cases were in young albinoes. He had met with three cases in adult women, one being very extensive and difficult to cure. He doubted whether Dr. Unna's method would be much used in hospital practice in this country on account of the time and manipulations required in applying the dressings, and alluded to the use of chrysarobin for many years by Mr. Hutchinson, Mr. Tay and others. He observed that the prophylaxis of this disagreeable disease was insufficiently attended to. Although every source of contagion could not be always guarded against, one recommendation, long ago made by Dr. Liveing, should be generally adopted—viz., that children going to the hairdresser should always take their own brushes and combs with them. The *British Medical Journal* in 1885 sounded a note of warning in reference to the extensive dissemination of ringworm by our Board schools, and Dr. Stowers and Mr. Malcolm Morris have since called attention to the subject. The matter seems of such importance that it should not be allowed to drop. It has been suggested that the school children be periodically examined by competent experts and the affected ones kept apart, but nothing has as yet been done in this direction. Children affected with tinea tonsurans still going to school are quite common at the two skin hospitals attended by the author, and it is easy to understand how the disease must thus be spread.

Dr. ALFRED EDDOWES read a paper on the Treatment of Ringworm of the Scalp. After referring to the success which Dr. Unna had obtained by his method with chrysarobin, he proceeded to describe a modification of the method which he himself now employs in out-patient practice. The essential preparations are a mild sulphur ointment and a compound chrysarobin ointment. During the first week the scalp is washed every two or three days with soft soap or soda and water and dressed daily with sulphur ointment. For as many weeks as necessary afterwards the scalp is systematically treated by the chrysarobin and the sulphur ointments according to a plan which the author described in detail. In private practice and when thorough supervision could be exercised, he recommended the plan as carried out by Dr. Unna himself; but for out-patient hospital practice he found his own modification was more suitable, though not so rapidly successful. When the ringworm occurred in schools he did not consider it at all necessary that children should lose the advantages of education and be prohibited from attending their classes because they happened to have ringworm of the scalp. In his opinion they could be treated by a simple method, which he described, until the vacation or other convenient time, and then be taken in hand more thoroughly if still uncured. He mentioned a case which illustrated the futility of attempting to treat ringworm piecemeal and showed the advantage which the taking of cultivations of fungus had over other methods as a test of the progress of the treatment. Against the general or extensive employment of mercurials he felt very strongly, and for reasons which he gave he much preferred even dirty-looking and somewhat irritating substances to such as might contain poisons and not be so readily controlled.

Dr. P. MURRAY BRAIDWOOD read a paper on Nervous Disorders following secondarily certain Acute Infectious Diseases of Children. In this paper Dr. Braidwood considered the pathology and treatment of nervous disorders following croup (including diphtheria), influenza, measles, mumps, whooping cough, rötheln, scarlatina and chickenpox. He stated his belief that convulsive and epileptiform disorders following secondarily on acute infectious diseases in children were generally due to some accidental cause as a fright or the over-pressure of school work. Paroxysms of eclampsia infantilis closely resemble in their symptoms those of epilepsy in the adult. The convulsions may be repeated three or four times, while in the intervals the comatose condition and complete loss of consciousness and sensation may continue. The persistence of the reflex sensibility may in such circumstances easily mislead, for touching the conjunctiva produces contraction of the oricularis and sprinkling with cold water excites reflex contractions. Dr. Braidwood also considered the causes and treatment of chorea, Jacksonian epilepsy, unilateral spasms and tetanus. Massage in Dr. Braidwood's hands had yielded good results in cases of infantile paralysis, especially when he had combined it with electricity. The paper was illustrated by an interesting table of the chief nervous affections met with after the various infectious diseases.

THERAPEUTICS.

Touting in the Medical Profession.

Professor GAIRDNER of Glasgow said: I have asked permission to introduce some remarks into the business of this Section. Last spring it happened that I was appointed without my own concurrence in the least degree and by the unanimous voice of the committee to be the chairman of the Therapeutic Committee of the British Medical Association. I accepted the appointment under certain reserves and with certain misgivings, but these were entirely overcome when I found, some time afterwards, that the committee were at one with me in desiring that I should accept the chairmanship upon the conditions and with the reservations that I had myself made. About a year later it was discovered that the branches I had hoped to engage in the work did not, as it were, come to the rescue, and accordingly I found myself in the position of a defeated Minister. I had accepted for a particular purpose and with a particular policy in view, and I had found that the policy had broken down completely and therefore it appeared to me that the proper course was to resign the chairmanship, which I did. The resignation has been accepted with regret, but the circumstance which has made me address this Section is that I did not think all through the proceeding that the matter had been brought fairly before the public. I did not think the Sections who were written to and engaged in the matter were properly informed as to what my wishes were. I do not think the public knows, or that the members of the British Medical Association know, anything about it, and this has happened because the papers that I myself issued as indicating the policy I wished to follow have never been published. Now, mind, I am not blaming anyone. I am not wanting to raise a storm or make a personal point of this at all. I am not wishing to make any sort of mischief or disagreeableness, I am only stating as a matter of fact that I am standing here on the footing of a defeated Minister, having resigned my portfolio to the Association without its knowing why I have resigned it. It is quite true that a short circular letter from Dr. Sidney Martin was issued to each branch, but the papers in which I indicated more or less the lines which I considered it desirable to follow have never been published. Not only so, but I have received a letter from the Committee of Reference to the Journal to say that in their opinion they are not to be published. Now I am not quite willing to acquiesce in this, and all I want this Section to do is to listen to a few passages out of these papers and to say whether my views were not reasonable or, at all events, worthy of coming before the public more deliberately and more decidedly than they have done. I omit everything that is not essential, and I begin here:—

"Of the therapeutic work of the committee it may be said to begin with, that it not only constitutes, or ought to constitute, the larger part of our work, but from the very necessities of the case it must be conducted on lines differing essentially from the pharmacological work. The latter is capable of a very direct initiative and can be carried out on a general plan by physical investigation with experiments planned in the laboratory or otherwise, so as to obtain quite definite results and subject them to all the necessary corrections; but in therapeutic inquiries, strictly so called, you must of necessity pursue quite a different method, and be contented with much less satisfactory results. You must, in the first instance, secure a field for observation. You cannot make, according to preconceived arrangements, the particulars you want in respect of diseases on which to test your medical agents. Secondly, you must have men of skill known as such to perform your experiments and more or less precisely to record the results; but the point to which I wish your attention generally directed now is that not only must you have a wide field of competent men, but you must, as the first step thereafter, cause these men individually and collectively (to whatever extent you apply the collective method) to be impressed with the idea *a priori* that the experiment you wish to be made falls within the line of their duty, and is indeed obligatory on them as dealing with sick humanity. In other words, the men whose assistance you wish to secure are physicians first and therapeutic experimentalists afterwards, and it is not competent for you to require of them to subordinate the first of these characters to the second. Hence it arises that the collective method of investigation is only in a very limited degree applicable to the kind of inquiries with which we are now concerned. You cannot, as a rule, advise in London and put into the form of a schedule an inquiry as regards a particular remedy—say, a new remedy—which will have the force of an appeal carrying the conviction that the experiment so advised is the right one to be made, as viewed from the physician's point of view; but unless this conviction is obtained your experiment cannot be made at all, or, if it is made, it will be in a very half-hearted fashion. Hence it arises that in this element of personal conviction you have a barrier at the outset to what many call 'control' experiments on a considerable scale. The men who will give you a remedy are, by a kind of natural selection, predisposed in its favour; the men who are not so predisposed will usually abstain from giving the remedy and in general will be quite right so to abstain. You must in the end take the results with this bias of what may be called 'natural selection,' or you will have no results worth speaking of at all." I omit here a paragraph which is not important. "If you have followed me thus far in this line of argument and the committee are convinced of it because all agreed with it, you will see why my mind inclines to a multiplicity of small local committees rather than to one only, guided and governed mostly from London as the absolute centre of suggestion and reference. Not but that I believe that a central therapeutic committee will have its functions greatly enhanced and its way cleared for advance by coöperating in advising and by controlling rather than initiating the great variety of research of the local committees. You have obtained the necessary starting point and, having done so, it would remain for the central committee to record the conclusions and the results which have been arrived at by the local committees. If the central committee found the results unsatisfactory they might say so, or open up the question again on other grounds, or refer to another committee, or remit the conclusions back again to the original committee. In any case the central committee would have still more important functions in becoming the medium of communication between local committees at a distance, or between these and the Association. Very important inquiries might thus be made. The local committees would be safe from the premature and biassed judgments which were now put forth upon certain drugs and which are the mere despair of therapeutics." Now, my complaint is that all this pleading never reached the Association; it not only was not published in the Journal, but it was deliberately kept back, owing to the machinery by which the work of committees is confined to the committees. The new start initiated by the Therapeutic Committee ought to have received the largest possible publicity in the Journal, to have been discussed by the Association at large at the very commencement, in which case there might have been some sort of hope of getting these local committees constituted and of their doing something. Instead of this the result has been that, except in Glasgow (where the committee has been constituted, but could hardly be induced to meet) and in Dublin (where the committee is still in existence, although it has not done anything yet) all the branches that were applied to simply ignored or left the matter alone, and the policy has come to a state of dead failure and utter stagnation. That is attributable entirely to the Journal having either declined, or at all events having not published the basis of the remarks upon which the local committees were called for and asked for. Now, gentlemen, I am not complaining. This is not to me a matter of personal importance; in reality I am not inclined to press it, especially when I consider the severe labour and occupation which would have been imposed upon me had I continued chairman of the committee. Unless a position of that kind is filled *con amore* no good ever can come of it. I do not think, therefore, that the policy has had fair play; and I will go further, and I may say that sooner or later something of this kind will require to be done. I am perfectly satisfied that without therapeutic organisation in all our great medical centres therapeutics will go to the dogs. We are all getting more and more in therapeutics to be the victims of what in American politics is called "the machine." It is either a scientific machine, such as Dr. Sidney Martin or Dr. Lauder Brunton and all the great authorities in London who are working away at therapeutics in their libraries and laboratories—a kind of "machine" that is highly honourable; or it is a kind of machine that has found its way even into this room. It is the latter I am most afraid of. It is the "touting" machine. We see touting right and left, so much so that we are not allowed now to make up our own prescriptions. It is this apothecary in London and that physician in New York who keep urging upon us combinations of remedies used by themselves, and there is no ill to which human nature is heir that has not got its sole and universal remedy advertised all over the world. Any medical man requires simply to send his attestation that he has tried this remedy in numerous cases and always found it effective, to secure to himself that his name will get all over the world. It is that "touting machine" that is perverting all our therapeutics and lying at the root of biased judgment. How all these great advertising firms manage to "nobble" the profession is a mystery to me. A good many years ago a whisky used to be advertised under the patronage of all the medical journals in this country, but it is never heard of now. But, still, it is just one instance among many of the touting plague. The evil consists in this, gentlemen, that if a firm or a man, pharmaceutist or doctor, chooses to take, what up to a certain point is legitimate means of advertising and puffing, if he simply chooses to put it into the proper channels for acquiring a certain amount of publicity in connexion with his name, but chiefly, and above all, to connect his name with a remedy, it is not of the slightest consequence whether the remedy is absolute and unmitigated trash—nay, whether it is dangerous or whether it is the greatest possible boon to mankind, it is not of the slightest consequence, because before it is found out he will have made his money, if he has only puffed and touted it well, before there is time to find out whether it is good, bad or indifferent. Well, before there is time to find out whether it is good, bad or indifferent, he will have made an indescribable number of guineas. That is a great snare. There is a constant golden bait held out to the man who will manage to get even a certain temporary or makeshift presentation of a particular therapeutic agent, and in consequence of that golden bait (I am not attributing anything to the honourable members of the profession, but it is applied to the advertising firms) it is of far less consequence that the remedy should be good than that it should be something that can be well touted and well advertised. I had hoped that by constituting a nucleus of therapeutic inquiry in London and by attaching to this nucleus a number of largely independent and self-regulating centres of inquiry and investigation in the provinces, so that local errors might be effectually controlled, I had hoped that we might form a kind of barrier, a protection against the constant invasion of bad, useless and worthless things, and, on the other hand, advance the interests of true therapeutic science.

Discussion on "Dyspnœa" and its Treatment by Drugs.

Professor GAIRDNER, in introducing the subject, said an objection to a discussion on this matter was that the term did not refer to an individual and simple fact. It was not even the name of a disease. A second objection would have been that the treatment by drugs is not the whole treatment. As the therapeutics of one form must be distinguished from that of another kind he would endeavour rather to indicate the line of treatment by drugs than to indicate any particular drug as being of any more importance than another. The great physicians recognised three types of dyspnœa which were put in brief form by Celsus, thus: When the difficulty of breathing is moderate and not suffocating it is called "dyspnœa"; when it is more vehement, so that the breathing is suffocating, it constitutes apnœa; and when the breathing can only take place in the erect position it is termed "orthopnœa." All these words still remain with us. Orthopnœa is obviously something which differs in kind from mere dyspnœa—no doubt very often associated with it, but still containing in its differences something that was worthy of investigation. Apnœa in the last century was the general term for all kinds of dyspnœa. It is now limited to what is called "spasmodic asthma," and thus has obtained a somewhat different sense from that which was given to it originally. At all events it may be said that it is vain to discuss the treatment of dyspnœa by drugs without some kind of preliminary definition, however imperfect, to show you in what particulars cases of dyspnœa differ *inter se*. Dyspnœa, however arising, may be manifested in three distinct ways:—Firstly, by the presence of a peculiar sensation—*le besoin de respirer;* secondly, by a chemical change in the blood corpuscles, which leads to cyanosis; thirdly, by decreased activity of the respiratory reflexes and the respiratory movements. Not infrequently all these groups of phenomena coexist, though not necessarily in equal proportion. In some patients cyanosis is not apparent, while in others, as in cases of congenital malformation of the heart, cyanosis is the leading phenomena. The *rationale* of these discrepancies is not always clear, but the following considerations may help towards its clearing up, especially in a practical sense. The minimum degree of dyspnœa which can be called pathological is what is termed "shortness of breath." In some it would appear that either from the organisation in which the excess breathing power is always low, or from an undue sensitiveness of the respiratory reflexes, the least exertion brings about a sensation of dyspnœa and with it an increased shortness of breath. The converse of this is that in other cases very serious invasions of the respiratory mechanism are comparatively little affected by breathlessness. For example, I have seen a man with the pleura so full on one side that he had been tapped several times, but he had never the slightest sensation of dyspnœa; and, to mark that more emphatically, I had counted his respiration at sixteen per minute. The sensation of dyspnœa, the cyanosis with increased efforts of breathing, are facts or manifestations which may lead to different and sometimes separate indications for treatment. Further, dyspnœa itself, being a mere group of symptoms and not a disease, the removal or mitigation of the cause is often the only real key for the effective treatment. Dyspnœa may be purely of hæmatic origin, as in anæmia, in which the blood corpuscles or oxygen carriers are both deficient, and the tissues consequently are not properly fed with oxygen. In this variety there is no cyanosis and even little of the sensation of dyspnœa. So far as my observation goes there is never orthopnœa. The patient is perfectly contented, sitting or recumbent. The respiration is as often slow as rapid and the circulation also may be languid. In this case the therapeutic indication is manifestly to restore the hæmoglobin to the corpuscles and to increase the number of these. Iron, arsenic, regulated exercise and all the remedies for anæmia are also the remedies for dyspnœa, which is a consequence of the anæmia. Failing this, inhalation of oxygen gas may be employed to bring about, *pro tempore,* the just balance between the blood and the tissues. None of the ordinary cardiac drugs can be expected to give relief. Again, dyspnœa may be due to pulmonary causes. In the first instance it may be exclusively pulmonary, and detection of the nature of the causes will, more than anything else, dominate the treatment. The typical cause here is bronchitis with emphysema. In these cases cyanosis is present and may be even extreme during an exacerbation. There may be also found a distinctly paroxysmal element, which, however we account for it physiologically, is designated "spasmodic asthma." The breathing is not so much accelerated as it is laborious, and the whole disturbed mechanism of the respiratory act shows that a patient is under the mechanical or vital necessity of making every single respiration as effective as possible by inspiring to the full extent of his vital capacity. Inhalation of oxygen gas might be suggested as a palliative, but it can only go a short way. It is very good as a temporary expedient, and I have on various occasions recommended it with advantage; but the one great therapeutic indication is to remove as far as possible the obstruction to the air which exists in the tubes or air cells. Hence the general recognition of expectorants. Now, many people use the phrase without clearly knowing what is an expectorant. I hold that an expectorant is a remedy that acts upon what I call the scavenger muscles of the air tubes. I say that the bronchial ramifications below the cartilages are under the domination to a great extent of the muscles that line them, and that these muscles are engaged, both in health and in disease, in the perpetual process of scavenger work—clearing out, not only the mucus, but the dust and offensive matter which we are inhaling. I have endeavoured to convince myself that this is a necessary function, and, if so, there is some apparatus for its performance, and that I believe to be the muscles that line the bronchial tubes. An expectorant, therefore, is a remedy that acts upon, quickens, regulates and renders normal that which was abnormal—this scavenger function is that of the bronchial tubes. Dr. Benjamin Ward Richardson has been the first to use the term "pneumoparesis," and he applies it exclusively to the vascular system of the lungs—paralysis of the small vessels. What I wish to state here is that if I had adopted the term I should have applied it to the paresis of these scavenger muscles, and I believe that the large part of the bad effects that lead to dyspnœa is either caused or aggravated by the accidental failure on the part of these clearing muscular agents to do their duty. The science of therapeutics consists in using such remedies or drugs as act upon these muscles, quicken their expulsive methods and clear a free passage to the air. The remedies are the normal constituents of an expectorant mixture. There is quite a distinct group of causes of dyspnœa of pulmonary origin, the typical instance of which is what is absurdly called "acute croupous pneumonia." Here the obstruction is in the air vesicles, and accordingly no strained efforts of the muscles of respiration can be of any avail except in supplying those parts of the lung which are not affected. A patient with bronchitis almost always has orthopnœa; he sits up, makes great efforts, inspires to the top of his bent, but the respiration is not always quickened in proportion; but the patient with pneumonia, whether in one, two, or three lobes of the lung—that is, with pneumonia and nothing else—lies flat on his back. There is not the slightest orthopnœa; he may be more cyanotic than the other man, but he lies upon his back and breathes rapidly—50, 60, and 70 in the minute. The respiration reflexes act in the direction in which they are wanted. Expectorants here are of comparatively little use except as keeping clear the avenues of such parts of the lung as are capable of admitting air. The treatment is the treatment of pneumonia, and in this treatment opium is notoriously a drug which requires to be used with great caution. Opium no doubt acts by paralysing the scavenger muscles. Why did opium check expectoration? It did not check the secretion of the skin. It checked lung secretion by paralysing the action of these scavenger muscles.

The third group includes the cases in which the initial lesion is not essentially of the lungs, or at least is not within the air passages and air cells, but which lies outside of the pulmonary apparatus altogether. It included cardiac dyspnœa, pleural and peripheral effusions, dropsical swellings, asthmatic dyspnœa &c. In this third group the working point in therapeutics is and must be in favour of the removal of the cause, whether fluid or otherwise; in cases of cardiac origin strengthen the heart by cardiac tonics to overcome the difficulty of breathing. With respect to the removal of *obstructing* matters which cannot be dealt with through expectorants, remember always one of these true sayings: "In morbos pulmonum ad vias urinæ ducendum: in disease of the lungs act upon the kidneys"; and if time is allowed by the urgency of the symptoms—the well-known and recognised diuretics are available here, and even the so-called cardiac tonics are most effective in producing diuresis. I have been accustomed to say in administering these tonics—digitalis, strophanthus and so on—"*Look well to the kidney* secretion; take a note of the quantity of urine before you begin to use the drug and see whether *in two, three, or five* days it increases—doubles, trebles or quadruples itself. If so, the action of the remedy is safe and satisfactory: if not, the opposite is the case. I would here interpolate that cream of tartar—an old friend of mine—which was long before my day championed by Cullen, is one of the best and safest diuretics. In jaborandi or pilocarpin we have a remedy of most unquestionable power, of efficient and extremely rapid action, which is ever ready to hand and requires to be mentioned only with a *caveat*, because in some cases of cardiac dyspnœa it may be open to abuse and danger. Finally, there is venesection, a disused and much abused remedy, but which is still applicable to those cases in a higher degree than any remedy I know; but I dare not open up the question.

Professor LEECH, continuing the discussion, divided the cases of dyspnœa into two groups—those which are chiefly connected with the respiratory apparatus and those of cardiac origin; a third might be added—those connected with hæmatic conditions, either from alterations in the blood or from poisons. The remedies for these cases are widely different. He pointed out the value of the nitrites in lung cases with dry sounds. With a suitable preparation, for instance, nitro-glycerine, he could confidently predict relief. He described the difference between nitrite of amyl and other nitrites. Nitrite of amyl was briefer in its action, consequently not so useful in these cases. In cases of turgidity and moist sounds no relief could be afforded by those drugs. The remedies in such cases were expectorants, such as antimony or lobelia. Regarding the use of chloral or opium he agreed with Dr. Gairdner. The dangers were great in cases of dry rhonchi, and still greater when the sounds were moist. If chloral, however, were given the heart should be carefully watched. He had found ammonia to be of great use in relieving very markedly the craving for air. He also had tried the fumes of various makers. These, on being analysed, were found to contain either nitrites, pyridine or mydriatics. He handed in a table showing this.

Dr. HANDFORD referred to one form of dyspnœa which was of a narcotic origin and closely allied to gout. It depended upon digestive disturbances. That was the dyspnœa which occurred in attacks of megrim.

Dr. HAYWARD remarked that in his earlier days he had been rather frightened with the results of pilocarpine injections, and asked particulars for its use in private practice.

Professor OLIVER said he had observed many cases of pleurisy with effusion where there had been absolutely no dyspnœa, and illustrated this by one case from which twenty ounces of fluid had been removed.

Dr. WILBERFORCE SMITH suggested that "succus belladonnæ" might be used with advantage instead of the fumes.

Dr. PEARCE referred to the use of aconite in the spasmodic form of asthma.

Dr. NORMAN KERR stated that he was a sufferer from dyspnœa and had tried all the drugs to be found in the Pharmacopœia, ranging from whisky to belladonna and aconite. He had generally found the first dose of these drugs to be efficient, but their action was not kept up. He had only taken three medicinal doses of whisky in his life.

Dr. WALKER (Pollokshaws) referred to dyspnœa due to overloaded stomach and bowels, which he had seen cured by the use of strong purgatives. He had also used iodide of potassium combined with belladonna and digitalis with good results. He thought the mistake Dr. Kerr had made with the whisky was that he had not taken enough of it. He recommended him in case of another attack to try it in larger doses.

Dr. SINCLAIR COGHILL divided the remedies into those which were directed to relieve pulmonary asthma and those which were directed to relieve cardiac dyspnœa and reflex dyspnœa. It was a very important thing for the practitioner to have a variety of remedies and if possible to use them with reference to the causes of dyspnœa and condition of the patient. Iodide of potassium was frequently very efficacious, and the late Principal Barclay of Glasgow, who suffered for many years from this affection, was cured by it. Another remedy which he mentioned as being largely used at the Hospital for Consumption at Ventnor was the tincture of the Virginian prune and the compound spirits of chloroform.

Professor GAIRDNER briefly replied and the discussion terminated.

LARYNGOLOGY.

In this Section Dr. MACINTYRE gave an interesting demonstration of Micro-organisms in Throat Disorders. He began by alluding to the term "catarrh" itself, and pointed out that for the most part it was merely a manifestation of something else which caused it. He drew some pictures of typical cases which should be classified under the heading of catarrh, and then passed on to the consideration of the causes of these. He began by referring to the etiology, and made reference to the ordinary conditions which are described in the text-books as producing or modifying catarrh. He wished to pay special attention, however, to the question of bacteriology, which was influencing so much every branch of medicine and surgery. He pointed out how catarrh may be produced from bodies applied to the external substance of the membrane and from constitutional poisons injected at a distance, and led up to the conclusion that certain agents applied from without and other agents brought from within might result in the production of signs in the throat and nose which, when grouped together, give rise to the term "catarrh." Under favourable circumstances the causes were ultimately cast out and local changes disappeared, but too often secondary changes were set up of a detrimental nature. The etiology was demonstrated by specimens and drawings of all the known organisms which produce a morbid influence and are found in the nose and throat. The important point which he wished to advance was that inflammation and even purulent inflammation might result from the absorption of inorganic materials, of which the best example was afforded by sterilised chemical substances which were the products of micro-organisms themselves. Local inoculations of these products might cause irritation or even death at the part, but they also set up inflammation in the vicinity. Older surgeons got rid of a foreign body and expected the secondary inflammation to disappear. But they knew nothing of microbic invasion, and hence catarrh itself was too often treated instead of the cause. This important point had a great bearing upon the treatment. If catarrh were really a manifestation of disease, and to be interpreted as a method of nature of getting rid of a difficulty, the practitioner's whole efforts ought to be to relieve the cause upon which catarrh depended. Where this could not be done every aid should be given to the *vis medicatrix naturæ*, and there was no use hampering it by applying sprays, gargles or other agents in trying to remove organised structures. The etiology was further referred to with special reference to the various diatheses. Some important points bearing upon anatomy and physiology were noted and the pathology carefully gone into. Special attention was paid to the treatment of secondary results which must naturally follow obstruction to the breathing.

EXHIBITS.

(Continued from p. 278.)

We resume our notice of the Sanitary Exhibition held at Nottingham last week. At Stall 14 Mr. John Barker of London exhibits an operating table, bed-rests, and orthopædic contrivances. Stall 15: Messrs. J. Tylor and Sons of Newgate-street, London, have a very large and interesting display of closets, Ariston's lavatories and everything appertaining to this department of sanitary science. Stall 16: Mr. G. Jennings of Lambeth, London, exhibits his improved sanitary appliances. Stall 17: Mr. John Greenall, Portland-street, Manchester, shows a large variety of steam washers and laundry specialities. Stall 18: Mr. F. Cook of Nottingham, sanitary engineer, shows a large variety of sanitary apparatus of various kinds, including Messrs. Farmiloes, Twyford, Woodhouse Osborne Company's specialities. Stall 19: Messrs. Sollory and Son, sanitary engineers, Nottingham, have a stall mainly devoted to matters of domestic hygiene, containing Messrs. Bostel's, Farmiloes', Walshe's and others' specialities. Stall 20: Messrs. Quirk and Sharpe of Liverpool show an excellent patent joint which affords one solution to the difficulty of joins for earthenware and metallic drain-pipes. Stall 21: Mr. Joseph Shaw of Huddersfield shows a health water-pipe which consists of a wrought-iron tube lined with block tin. Dr. T. Maccall of Southport exhibits on Stall 22 a portable Turkish bath for use in private houses, hotels, hospitals &c. It is a complete chamber, heated and ventilated, giving a thorough Turkish bath on a small scale. A very neat and pretty display of cycles is made by Messrs. F. Pearson and Son of 12, Angel-row, Nottingham. Mrs. Philip Monkhouse, London, S.W., occupies Stand 24 with her patent Excelsior Bed Lift, as supplied to the Admiralty and leading hospitals. On Stall 25 Messrs. F. C. Calvert and Co. of Manchester are showing quantities of carbolic acid for medicinal, surgical, and disinfectant purposes, preparations from carbolic acid, carbolic soap and carbolic dental preparations. A speciality is the carbolic vaporiser for purification of the air in sick rooms, removal of mosquitoes and other insects, and for general use where an aerial disinfecting and purifying agent is required. Mr. Henry Ellison, jun., of Cleckheaton, Yorkshire, shows on Stall 26 a number of carboline and carbolic disinfecting fluids and powders. Messrs. Thomas Danks and Co., Limited, of Thurland-street, Nottingham, have a large stand (No. 27), on which is a very good display of lavatories of the most approved kind; also a large and varied assortment of ventilators of the newest designs, including Boyle's, Sheringham's, Tobin's &c., a Moule's patent earth closet, designed for houses where a water-supply cannot be obtained; a collection of Cheavin's gold medal filters, the filtering parts of which can be easily removed for cleansing. The Wilson drawing and dining room gas-stoves in all varieties are also on view. In addition Messrs. Danks and Co. exhibit an assortment of the latest domestic appliances, comprising vegetable slicers, revolving graters, boot cleaners, a drip-tin with revolving grid, patent dustbins &c. Altogether the stand makes a most interesting display. Mr. J. Jones of Chelsea shows automatic seal air-tight manhole covers, bag, drain and pipe stoppers, screw expanding drain-plugs, inlet ventilators &c., on Stall 28; and Messrs. John Watts and Co. of Bristol exhibit a patent asphyxiator for applying the smoke test to drains for disinfecting purposes and for the destruction of vermin in holes, on Stall 29. The Sanitas Company, Limited, of Bethnal Green, London, show various disinfecting fluids, oils, fumigators, &c., on Stall 30; and No. 31 is occupied by Messrs. Billington Brothers of Liverpool with institution bedsteads, which can be adjusted in various ways. The Longford Wire, Iron and Steel Company, Limited, of Warrington, display some strong wire mattresses on Stall 32. A very nice assortment of earthenware and enamelled goods for hospital use is exhibited by Mr. Fred Henry, of Derby-road, Nottingham, on Stall 33. Stall 34 is occupied by the Leather Rubber Boot Company of Leeds, who display the excellent leather and rubber boots and shoes of Scafe's patent; whilst Stall 35 is tenanted by Messrs. I. and R. Morley of Nottingham, Mr. Darby being in charge. The firm make a very fine exhibition of natural wool pure undyed goods. There are a few white merino articles of pure wool and copper, and there are also silk goods. In some of the cotton stockings the sanitary black dye has been used; this is harmless, clean and fast, so that it does not soil underlinen. The Ceres Automatic letter and card files are seen on Stall 36. The file consists of a box or cabinet of drawers made to any size, and the letters are arranged standing up at a convenient slope against a sliding support, which moves easily by pressure applied at any distance from it, but jams automatically by the slight weight of letters against it. There are movable alphabetical division boards, and the letters are dropped in between them in dictionary order, the letter of the latest date being in front. Mr. J. A. Robertson, jun., of Peterborough, shows a doctor's bicycle on Stall 37 and on Stall 38 Surgeon-Lieutenant-Colonel W. H. MacNamara of Aldershot exhibits a model of a water-closet. The object is to cut off pan and fittings from the interior of the house when the closet is not in use, so that gases escaping from the pan or fittings might escape outside. The Trent Gas Engine Company, Limited, of New Basford, have one of their One Trent gas engines at work on Stall 38. Stall 39 is occupied by Mr. L. Worthington of Westminster, with prize drawings and detailed specification of model lodging-houses for the London County Council. On Stall 40 Messrs. Merryweather and Sons, Limited, of London, exhibit a new patent hydraulic sewer flusher, "microbolisers," and pumps. On Stall 41 Messrs. J. Stone and Co., Deptford, have a glass model of their patent field automatic syphon cistern. On Stall 42 the Nottingham Corporation exhibit water meters, pipes, joints and other fittings; and on Stall 43 the Wales Carriage Engineering Company, Limited, of Sheffield, display an automatic flush tank and hough closet, a high-pressure side valve &c. An account of the museum exhibits is reserved for our next issue.

British Medical Temperance Association.—The annual prizes of £10 and £5 offered to medical students in their third year by the British Medical Temperance Association for a written examination on Alcohol have this year been awarded as follows:—First prize: Mr. D. F. Harris, B.Sc. Lond., of Glasgow University. Second prize: Miss E. J. Moffatt, London School of Medicine for Women. Honourable mentions to Messrs. S. J. G. Carré, F. Chown, W. A. MacKay and M. A. Saltmarsh. The examiners were Professor McKendrick, Dr. Moir, Dr. Morton, Dr. Richardson, Professor Simpson and Professor Sinclair.

ARMY MEDICAL DEPARTMENT REPORT FOR THE YEAR 1890;

WITH APPENDIX. VOL. XXXII., 1892.

[SECOND NOTICE.]

A TABLE is given on p. 22 of the report showing the admissions, deaths, number of men invalided and number constantly sick from each arm of the service in the United Kingdom, with the ratios per 1000 of strength, and, by way of comparison, the corresponding ratios for the previous ten years. From this we gather that the highest admission ratio was in the cavalry, 912·9, the next being 905·8 in the Foot Guards, which stood highest in this respect for the average of the previous ten years. The Royal Engineers appear to have the lowest admission, as well as a low ratio of constantly sick rate. With regard to constant inefficiency through sickness the Foot Guards had the highest ratio, 64·44 per 1000 for 1890, and the average of the previous ten years 58·83 per 1000. As regards the mortality rate, the highest, 6·73, was in the regimental depôts in 1890, as well as on the average of ten years; the lowest ratio was 4·10 in the Household Cavalry, and 4·81 in the Infantry. The Royal Artillery death-rate, 6·45, was the next highest to that of the regimental depôts in 1890. Invaliding was highest in the Household Cavalry and next in the Foot Guards in the same year; and in that preceding and in the decennial average the highest ratios were in the same arms of the service, but their relative position to each other was reversed. Of the battalions of Foot Guards, the 1st Battalion Coldstream Guards, stationed in London, gave the highest admission and constantly sick rates, whilst the 2nd Battalion, stationed four months in London and eight at Windsor, gave the lowest ratios. The highest annual mortality rate, 14·34 per 1000, was in the 2nd Battalion Grenadier Guards; in the 2nd Battalion Coldstream Guards there was no mortality. Invaliding rates ranged from 34·43 per 1000 in the 1st Battalion Grenadier Guards to 15·03 in the 2nd Battalion Coldstream Guards.

The average strength of officers in the United Kingdom, calculated from the annual returns for 1890, was 3963, among whom there were 1553 attacks of illness and 23 deaths. The rate of sickness was 391·9, and that of mortality 5·80 per 1000, a slight increase on the corresponding rates of the previous year.

In an average strength of 10,591 women there were 4349 cases of sickness, exclusive of ordinary parturition, and 61 deaths in 1890, the rate of mortality being 5·76 per 1000. The average strength of the children was 21,371 and there were 10,914 cases of sickness and 493 deaths, being in the ratios of 510·7 and 23·07 per 1000.

As regards the section of the report devoted to recruiting we may remark that nearly half the total number of recruits passed fit for the service were between eighteen and nineteen years of ages; that nearly 14,000 were between 5 ft. 4 in. and 5 ft. 6 in. in height and only 1143 between 5 ft. 10 in. and 6 ft. upwards, out of a total of 33.362 recruits approved; excluding boys enlisted under seventeen years of age, the average age of recruits finally approved during the year 1890 was 19·1 years, the average weight 120 lb. and the average chest measurement 33·5 in. In the two latter respects the corresponding measurements were slightly less than those of the previous year.

As regards the army abroad we must be content to take a few stations as samples and by way of illustration. The health of the troops serving in the Mediterranean during 1890 seems to have been satisfactory. At Gibraltar the death-rate was only 3·22 and 1 had declined by 2·45 per 1000, as compared with the preceding year; and there was also a decline in the admission, constantly sick, and mortality rates, as compared with the corresponding rates for the previous ten years. Enteric fever caused twenty-six admissions and four deaths during 1890, being in the ratio of 5·6 and 0·86 per 1000 respectively. There was, as usual, much inefficiency from a continued form of fever. Some of the cases were severe and suffered frequent relapses; the two deaths recorded under this heading did not present any obvious distinguishing characteristics of enteric fever. Rheumatic complications were frequently met with and convalescence was often very protracted. Influenza appeared in an epidemic form in the early part of the year and caused a large amount of inefficiency. An elaborate scheme of main drainage and water-supply has been put forward for Gibraltar, which has, however, been the subject of some criticism and opposition on the part of the civil population. The sanitary services effected during the year were very numerous, particularly as regards improvements in drainage, ventilation and the concreting of the floors of barracks and huts. The station hospital having been divided and a part handed over to the navy the accommodation for the sick of the garrison has been found insufficient and a proposal for a new station hospital has been put forward. At Malta the average strength for the year was 7055, and the death-rate 9·77 per 1000. There were sixty admissions and twenty deaths from enteric fever, being in the ratios of 8·5 and 2·83 per 1000 respectively. All the cases returned as enteric fever were of a severe type, and it is probable that many of its milder forms were returned as simple continued fever which caused an admission-rate of 85·5 and a death-rate of 1·23 per 1000 respectively, and was characterised by a tendency to frequent and severe relapses and to be followed by rheumatism, sciatica and prolonged convalescence. The principal medical officer considers that on sanitary grounds no soldier under nineteen years of age should be sent from England to any Mediterranean station for duty. One third of the troops during the summer months slept in tents, as heretofore the practice, and with excellent results as regards their health. A large number of wooden huts sent out in the previous year were taken into use and highly approved of. The civil authorities have contributed towards improving the sanitary state of the towns, in which many of the barrack buildings are situated, by the construction of additional large ventilators to the main sewers and improving the ventilation of houses.

At Bermuda enteric fever was very prevalent among the troops stationed there. There were sixty-two admissions and ten deaths, being in the ratios of 40·1 and 6·47 per 1000 from that disease in 1890. The cases were distributed through the garrisons occupied, with the single exception of Ireland Island. The immunity of this place is attributed to free exposure to the wind and to its having little or no communication with the insanitary towns of the mainland. The senior medical officer considers that until the sanitation of Hamilton and St. George's are radically improved, there will be a great liability on the part of soldiers visiting these towns to contract enteric fever. With this cause of sickness and mortality removed Bermuda should be one of the healthiest of the British colonies. It is a popular winter resort with the Americans. The strength of the British troops serving in Egypt was 3209. The relative sickness in Cairo and Alexandria was as follows:—At Cairo, with an average strength of 2304, the ratio of admissions was 913·2 and of deaths 6·51; at Alexandria, with a strength of 905, the rates were for admissions 1185·6 and for deaths 26·52 per 1000 respectively. Compared with the corresponding rate of the previous year there was a decided decrease in the rates of sickness and mortality at Cairo and a marked increase in both ratios at Alexandria. Much of the sickness at the latter station was attributable to the prevalence of enteric fever in the 2nd Battalion Suffolk Regiment, a newly arrived regiment in Egypt.

CYCLING AND VITALITY.

IT was recently announced in the daily papers that a rider had, on an "ordinary bicycle," covered 413 miles in twenty-four hours. The feat seems incredible; and it would be interesting to know what the philosopher who predicted some thirty years ago that a cyclist could never travel faster on two wheels than he could on his two feet would think of this achievement. Anyway the thing has been done, and, what is more, there are many cyclists, men of experience in the art, who look upon it quite calmly, and predict boldly that good as this "record" is, it has been made to be beaten as certainly as it has beaten those which have gone before it. Where is pace in cycling to end? we exclaim. Well, that is impossible to say. We know a cyclist—a member of our own profession—who declares that if he could be protected from the impeding influence of the wind and could be put on a line of railway—properly laid for the purpose—he could, if placed behind an engine tearing away at the rate of twenty-five miles an hour, keep up with the engine for one hour at least At one of the meetings of the Society of Cyclists, over which Dr. B. W. Richardson presided, he gave a new reading to these feats. He saw in them the first true efforts leading to the practical accomplishment of aerial flight. These are subjects for the future. What we have now to do is to accept what is achieved, and estimate the cost at which the present rapid movements on wheels have been secured: the cost of vitality in the efforts of the rider, less the risk of accidents to which he is subjected.

In the month of May in this present year the value of despatch cycle riding was put to the test, in order to show that military messages can be carried by the relay bicycle more rapidly than by horseriding. A despatch was sent by a bicyclist from General Miles in Chicago to General Howard in New York, over a distance of 1000 miles, with the expectation that the work could be done in 100 hours. It was done in 108 hours, a success that could not have been approached by the best mounted rider on horseback. But again comes the question, At what cost? The cost to the rider is, we say at once, altogether unwarrantable, for during the twenty-four hours in which a rider is occupied in covering 400 miles his heart knows no rest from full activity, and the elastic coat of every artery in his body is in full tension. In some instances such is the tension that the man literally propels himself in what may be called blindness. His legs work automatically and his course is directed in a manner very little different. When a bicyclist was unfortunately killed from an accident caused by fast riding, a witness said, on oath, that the rider was going so fast and was so intent on the race he did not hear witness until it was too late, that is to say, until he got within two yards of a cart into which he ran, when he altered his whole position, called out "Oh!" and coming into collision received the fatal injury. In another instance, where one of the long and sleepless rides was carried out, the rider was seized with vomiting, which never ceased during the whole of the effort. He, too, lost the guiding power of his senses, and for some miles tugged on as if he were blind, tearing away, in fact, in a kind of trance, his higher nervous centres paralysed and his body retaining its life and mere animal power, held living by the respiratory centre and the heart, they also being taxed to the very extremity of danger.

When we, in these columns, tell plain and unvarnished facts of this character, we are sometimes accused of being alarmists. We care nothing for that harebrained stigma. We have our duty to perform, and it is our duty to declare, from a knowledge of the bodily powers and function, that the risk implied, even when there is escape from immediate accident, is dangerous up to the verge of insanity. We do not deny that every now and then a young man in the bloom of health and full of vital energy is able, during his short physical prime, to complete these remarkable feats and stand out for the moment the model of physical power in this one direction of it. Watching him in the plenitude of his strength, his companions will jeer at us and will ask us to tell them whether we can detect in him any demonstrable change for the worse. We are prepared to say "perhaps no," for we have not yet at our command the knowledge and means for detecting the first and minor indications of organic injury from physical strain. We admit, further, in all fairness, that a man may one or more times pass through the strain and not be so much injured as to be left bearing, necessarily, a life so shortened that the period of the shortening will admit of correct measurement. But with so candid an admission we must claim to hold with equal candour the facts that, although we may be unable to determine the infliction of injury by our present refined methods of diagnosis, we have the best and most common-sense reasons, derived from experience, for assuming that the body at any age and in the finest condition cannot be exposed to the strains to which we refer without being oppressed beyond the bounds of safety; whilst we are absolutely certain that the oppression often repeated is of necessity a serious cause of organic degeneration. On this last head experience of the clearest kind is our guide and monitor. We have watched the fate of those who, in the brief period of the history of these violent exercises of strength, have excelled and have run through their short day and generation, and we regret to record that no experience is more painful or more instructive for purposes of warning. Man is not an engine of iron and steel, but an organism of flesh and bone and blood that has to be renewed from day to day and from hour to hour, and his energy is not roughly chemical but vital in its nature; he is constructed for other and nobler purposes than mere engine labour; and if he throws himself into mere engine work he will soon become an engine so disabled that his better self will fall into death before he has reached what in others better trained would be the prime period of vital strength and activity.

THE AMERICAN MEDICAL ASSOCIATION.

[First Notice.]

The recent meeting at Detroit was probably one of the most important and best organised which the Association has ever held. Considerably over 1000 medical men were present from all parts of the States, and not only the general meetings, where what may be called medical politics are for the most part discussed, but also the meetings of the various sections, which occupied themselves with matters of purely professional or scientific interest, were conducted with a vigour and energy which showed how intent the members were on the various matters which had to be discussed. There were in all twelve sections, each with a chairman and a secretary of its own, and although occasionally a meeting of one or more sections had to be adjourned out of consideration for the absorbing interest which surrounded a few of the general meetings the amount of work which was accomplished was by no means small.

The meeting was opened in the Detroit Opera House. The stage was beautifully decorated with flowers and palms, and the house was filled with an audience which was evidently keenly interested in all the proceedings. After Bishop Davies had offered prayer and General Alger had in a few appropriate words welcomed the Association to Detroit the President of the year, Dr. Marcy, of Boston, delivered an address, the subject being "Evolution in Medicine." This somewhat technical title scarcely conveys an adequate idea of the scope and bearing of the interesting address which was delivered. It was indeed more a description of the development of the American Medical Association and an indication in outline of the direction in which it should proceed in the future, with the view of drawing closer together the various associations and societies throughout the country and of strengthening the hands of those who are endeavouring to press on reforms in regard to medical matters. One subject was referred to in the address in which the orator evidently carried with him his entire audience—viz., the proposed establishment of a national board of health presided over by a secretary of public health who should be *ex officio* a member of the Presidential Council. Such a board would take cognisance of all that affects the public health of the community, especially of epidemic and infectious diseases, and there seemed to be a universal consensus of opinion that such a central board would, in coöperation with the State boards of health, be the means not only of enforcing sanitary regulations but also of educating the people to recognise their importance and desirability.

A most interesting and instructive address on Surgery was delivered on the second day by Dr. John B. Hamilton. His subject was "The General Principles of the Surgery of the Brain and its Envelopes," and the plan which he adopted of stating concisely the object and the result of numerous cranial operations carried out by various operators was probably the most telling way of putting his arguments for free interference on general principles with the brain and its envelopes. A glance over the cases enumerated by him is sufficient to show the enormous strides which brain surgery has made in the last few years. At the conclusion of his address he strongly advocated the principle which has been laid down by Horsley and Hayes Agnew, that all depressed fractures, slight or severe, ought to be surgically treated with the view of preventing the too frequent sequel of such accidents—viz., traumatic epilepsy. In this way alone, it was urged, will traumatic epilepsy be satisfactorily grappled with.

The address in Medicine on the third day was delivered by Dr. A. L. Gihon of the United States Navy, who discussed in an admirably suggestive way the relation of bacteria and their products to disease, dwelling especially on the views as to protection against the influence of microbes recently brought forward by Dr. Sternberg of the United States Army, and others.

Such were the addresses delivered to the Association as a whole. We reserve for a subsequent notice a short account of the work of the sections.

PICTURES AND BUSTS IN THE ROYAL COLLEGE OF SURGEONS.

THERE has just been published a catalogue, compiled by Mr. F. G. Hallett, of the portraits and busts in the Royal College of Surgeons of England, with a short biographical notice of each. In the introduction to this catalogue Mr. Hallett writes: "A wish has been expressed on several occasions that a catalogue of the pictures and busts in the possession of the Royal College of Surgeons of England should be compiled, and although from time to time attempts have been made to supply the want, no one has hitherto been able to give the time necessary for searching the minutes and other records of the College. In publishing this catalogue it is hoped that the short biographies may lend additional interest; and although it is not intended that they should be exhaustive, an endeavour has been made to give as complete a record as possible of the appointments held by those who have assisted in creating the history of the College." There is no doubt that the catalogue has not been compiled without considerable research and that the various notices of the distinguished men represented in the College collection are accurate and carefully compiled. There is an index at the end of the catalogue which enhances its value. The catalogue may be looked upon as authoritative as regards dates and events in the lives of those mentioned in its pages. There are some thirty-one busts and thirty-seven portraits in the possession of the College, and various plaster casts of busts, engravings, miniatures, sketches &c. The portrait groups include amongst them one representing His Majesty Henry VIII. granting the Act of Union to the barbers and surgeons, the figures of which are attributed to Hans Holbein; a painting, "The Dissecting-room," by T. Rowlandson, said to represent William Hunter demonstrating to his class in the Great Windmill-street School dissecting-room; a copy of the picture by Rembrandt, in the national gallery of the Hague, of Nicholas Tulp and his pupils; a group of the Council of the College in 1884, painted by Henry Jamyn Brooks. It will not be surprising to find that the memory of John Hunter has been more honoured than that of any other, and we find there is a life-size statue by Weekes, a portrait by Sir Joshua Reynolds, a copy of this by Muller, a miniature copy in enamel of the same picture by Bone and engravings of it by Sharpe; a medallion by Tassie, busts by Harman and Sir Francis Chantrey, a plaster cast of the above, and a pencil portrait by Sir N. D. Holland, Bart. There are busts of their Majesties George III. and George IV., by Sir Francis Chantrey; of the "Right Honourable Lord Grenville," by Thomas Phillips; and of "Dr. Georg Friedrich Louis Stromeyer," by W. Englehard; but with these exceptions we find none but those whose work has contributed to the fame of the Royal College of Surgeons, the names of the majority of whom are known throughout the world. The catalogue is well printed on excellent paper, and leaves nothing to be desired. We understand that the price of the book was fixed at half-a-crown at the recent Council meeting, so it is within the reach of all taking an interest in the College.

INTERNATIONAL CONGRESS OF EXPERIMENTAL PSYCHOLOGY.

THREE years ago the first Congress of Experimental Psychology met in Paris. The second Congress was opened on Monday at University College, London, with Professor H. Sidgwick as President. The Vice-Presidents are Professors Bain, Baldwin, Ebbinghaus, Ferrier, Hitzig, Liégeois, Preyer, Delbœuf, Richet and Schäfer. The honorary secretaries are Mr. F. W. H. Myers and Mr. James Sully. The Congress numbers about 270 members, including distinguished representatives from Germany, France, Holland, Roumania and the United States, as well as from this country.

The feature of the first day was the inaugural address of the President. After welcoming the members of the Congress to this country, more especially those who formed a connecting link with the Congress of three years ago, he said that the selection of this country for the second Congress, while not in need of any defence, suggested the admission that England rather lagged behind in the matter of experimental psychology—if the term experimental were taken in the narrow but usual sense to denote investigation under artificial conditions. If, however, the term were taken in its wider sense to mean the whole science of mind, so far as it was based upon observed facts, then, looking at the long line of English psychologists from Locke and Hume down to Bain and Spencer, no one, he thought, would contest the claim of England to be regarded as the ancient home of psychology. The term "experimental" for the purposes of the Congress, was to be taken as intermediate in meaning between the stricter and more lax meanings alluded to, so that it included all investigations in which the reasoning was based upon observations methodically pursued for a special purpose, even if they were not in the strictest sense experimental. Reference was made to the connexion between physiology and psychology, and it was pointed out that the antagonism between what may be called the neurological and psychological platforms, which was so strong twenty or thirty years ago, had now to a great extent disappeared, for the crude materialism which refuses any recognition to the results of introspection and the psychology which claims a realm in which psychical processes are unaccompanied by nervous processes are equally out of date. Thus it had now become clear that the issue between materialists and psychologists related to the nature of the causal nexus which linked each successive double fact with physical and psychical antecedents and consequents. But the empirical psychologist might leave this discussion on one side and content himself with tracing uniformities among the psychical phenomena which he studied with their physical accompaniments, without entering on the question of their causation. For this task physiology was extremely useful, and they recognised this by constituting a section in the Congress for papers mainly physiological in character. There was also a section for "Hypnotism and Cognate Subjects" and they were fortunate in having so many French hypnotists among them and especially from the Nancy school, where the work had been conducted on the broad lines which have been generally followed in Europe.

The first paper was that of Professor Bain. This dealt with the relations of introspection and psycho-physical experiments as mutual aids in psychology. In comparing the two methods it was pointed out that in the qualitative analysis of mental facts introspection must take the lead; while in quantitative analysis, or the mensuration of psychological quantities, the experiments of psycho-physics can render important service. Researches were enumerated in which the two methods concur, and it was pointed out that in all experiment may come as an aid to introspection, but cannot profitably supersede it.

Professor Grüber of Roumania read an interesting paper on Colour Hearing, explaining, however, that his subject was more extensive than the name implied, as it comprehended all cases in which the stimulus of one sense evoked images belonging to another. Reference was made to the careful observations of these phenomena by Mr. Francis Dalton, and the belief was expressed that the inquiry was still one of purely scientific interest, although the persistency of the phenomena suggested the possibility of a law which might in the future have some practical bearing.

A paper by Professor Ribot was read by Professor Richet, and subsequently one by himself entitled "L'Avenir de la Psychologie." It was pointed out that the first problem of psychology was the physiology of the brain and the imperfect character of our knowledge of this was emphasised. The difficulties of the studies were alluded to and it was pointed out that by means of comparative psychology some light might be thrown on the causes of madness and crime, and in conclusion the importance and vastness of the psychological field were alluded to.

At the meeting of the Congress on Wednesday several important papers were contributed in Section A. These were the more strictly physiological papers. They were as follows:—The Visual Centre in the Cortex of the Calcarine Fissure, by Professor Henschen; the Degree of Localisation of Movements and Correlative Sensations, by Professor Horsley; the Anatomical and Physiological Relations of the Frontal Lobes, by Professor Schäfer; and the Functional Attributes of the Cerebral Cortex, by Dr. Waller.

On the third day papers were read in Section A by Dr.

Verriest, Dr. Mendelssohn, Professor Heymans and M. Binet, and in Section B by Professor Delbœuf, Professor Hitzig and Mr. Myers. In the afternoon Professor Baldwin discoursed on "Sensibility and Will" and reports were given of the Census of Hallucinations. To these we hope to refer more particularly in our next issue.

THE CENTRAL LONDON DISTRICT SCHOOL.

DR. SYDNEY STEPHENSON presented to the Board of this school at their last meeting his third annual report, in which he states that the new buildings for the accommodation of children suffering from ophthalmia, sanctioned by the Board, had been completed and that they had been now occupied by such patients for two years. The greater number of admissions had come direct to the ophthalmic school from the various institutions belonging to the parish of St. Saviour's. The largest group of children, numbering no less than forty-three, were admitted on Nov. 16th, 1891. He advocates the removal of children affected with ophthalmia from the workhouses and infirmaries of London, because no proper accommodation exists for such cases and the treatment is consequently in many instances rendered nugatory. If granular lids were an affection admitting of rapid cure detention of the cases in the metropolitan infirmaries would be a matter of little moment, but the fact that the disease is very persistent meant serious interference with the proper functions of a workhouse or Poor-law infirmary. The ophthalmic school at Hanwell was built specially for its purpose two years ago, at a cost of nearly £30,000, and has accommodation for 134 boys and the same number of girls and of infants. Now out of fifteen available wards only eight were occupied, and the accommodation designed for 400 children contained only 111 ophthalmic cases. The nursing staff, which consisted originally of seven nurses in charge and fifteen assistant nurses, has been reduced to three charge and five assistant nurses. The education of the children is not neglected, one master being appointed for the boys, one mistress for the girls, and one assistant mistress devoting her mornings to the infants. The present arrangements, which have in great measure been thought out and carried into execution by Dr. Stephenson, appear to be excellent; and his report was regarded by the members of the Board as highly satisfactory.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following annual general report of the Committee of Distribution to the Council of the Metropolitan Hospital Sunday Fund has been submitted to and adopted by the Council of the Fund:—

Your committee have the honour to recommend the payment of awards to the 173 institutions enumerated in the appendix to this report (see page 77), being one more than last year, and an increase of sixty-eight since the first awards were made in 1873.

The total amount available for distribution, after allowing for liabilities and the usual current expenses, is £40,228. Of this total £40,118 15*s.* is now recommended to 120 hospitals and fifty-three dispensaries.

Five per cent. of the total collected—viz., about £2000—is set apart to purchase surgical appliances, in obedience to Law XII., in monthly proportions during the ensuing year.

Your committee recommend that all payments to the Fund after Aug. 1st be carried to the credit of next year's Fund.

In compliance with an Order of the Council, and for the special use of its members, tables of statistics have been prepared as usual, showing an analysis of the number of beds in hospitals, the cost of patients both at hospitals and dispensaries, the proportionate expense of management, as well as other valuable information, and copies are sent to every member of the Council.

The number of deputations representing committees of various hospitals &c. invited to confer with your committee and to offer explanations on matters of apparently unsatisfactory character was sixteen. Of these, seven elected to leave their awards entirely in the hands of this committee. Nine were invited to send deputations to meet your committee. Of these, one is recommended for award on its full basis, five on a reduced scale, and three are not considered to be entitled to anything.

Awards are therefore recommended to 157 institutions on their full bases, to thirteen institutions on reduced bases, and three institutions which have made applications are not recommended for any award.

DAVID EVANS, Lord Mayor, President and Treasurer.
SYDNEY H. WATERLOW, Vice-President.

JOHN D. ALLCROFT.	OWEN ROBERTS.
H. COSMO BONSOR, M.P.	W. SEDGWICK SAUNDERS, M.D.
HERMAN HOSKIER.	JAMES WHITEHEAD.
F. H. NORMAN.	ALFRED WILLETT.

Mansion House, July 20th, 1892.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Worcester Urban District.—The death-rate for the city of Worcester during 1891 was 21·6 per 1000 living, the excess over the average being largely due to fatal whooping-cough; but there is also an excess of death amongst infants under one year of age. Some satisfactory method of dealing with the refuse of the city is evidently needed, for it seems to be deposited under circumstances calculated seriously to damage health. The arrangement of the report is inconvenient. It is signed by Dr. Mabyn Read on an early page; then follows an account of the census, remarks on statistics, on notification, disease occurrences, the hospital, water-supply &c but there is nothing to indicate their authors. We assum however, they are written by Dr. Read, since other adde matter is signed by the inspector of nuisances and by D Horace Swete. Anyhow, we are glad to learn that the stat of the river as a source of drinking water is receiving serio consideration, for this has long appeared to constitute a gra element of risk to the city.

Willesden Urban District.—Dr. Skinner aids his read by an excellent table of contents. He discusses in some deta the questions of drainage and water-supply, and explains th offensive sewer emanations have been dealt with by mea of high shafts. The general death-rate on a population over 62,000 inhabitants was 13·8 per 1000 last year, and th zymotic rate was 1·6, a result that may on the whole regarded as satisfactory. But when the zymotic diseas are considered, it becomes evident that the absence any proper means of isolation is a source of great weakne in the sanitary circumstances of the place, and Dr. Skinn does not go too far when he foretells that possibly the may be an utter breakdown in consequence.

Swinton Urban District.—Dealing with the question infantile mortality, Dr. Jones refers to the unsatisfactor term "convulsions" in death-certificates, a term which finds to cover improper feeding, opium poisoning and allie neglect. The report deals mainly with special occurrenc of disease and the statistical bearing of these. But it added that the water-supply is deficient in quantity and n what it ought to be in quality. As so often happens in th neighbourhood, people cling to the antiquated practice storing up in close proximity to their dwellings and window heaps of excremental and other refuse to the extent in som cases of "hundreds of cubic feet" per midden. The syste is barbarous and some of our northern towns reek with th consequent filthy odour in the neighbourhood of the backs o houses. The general death-rate was 20·1 and the zymoti rate 2·9 per 1000 living, both rates much too high for a smal population of under 12,000.

South Shields Urban District.—Dr. Eustace Hill points o that during the year 1891 much active sanitary work wa carried out. The notification of infectious diseases cam into operation, active steps were taken to improve insanitar property, an assistant inspector was appointed, and a numbe of the abominable midden privies were abolished. Amon the more pressing requirements of the borough are furthe additions to the inspectorial staff, new by-laws as to build ings, slaughter-houses, and offensive trades, and means for isolating cases of small-pox. The latter question is one which involves much difficulty; unless, indeed, some of the schemes by which the infected air of hospital wards is consumed within the building turn out to be feasible in practice. The general death-rate was 22·0 per 1000 living. Infectious cases to the number of 139 were isolated in the borough hospital.

Lytham Urban District.—The population of this district was 4555 at the last census and the death-rate for 1891 was 19·7 per 1000. During the past two years the mortality rate has been excessive, but it is not always right to base too much on a rise, which may be temporary only, in such a small district as this. The zymotic diseases, indeed, caused but little death, whereas epidemic influenza is credited with an excess of deaths. Improvements as to the disposal of sewage are in contemplation and a new mortuary is in prospect. As regards general sanitary administration Mr. A. M. Eason's report must be looked upon as satisfactory.

King's Norton Rural District.—According to Mr. Hollinshead's last annual report the general rate of mortality for last year was 12·4 per 1000 on a population of 28,300, the zymotic rate being only 0·7; indeed this district has for many years exhibited a satisfactory saving of life in connexion with careful sanitary supervision. Scarlet fever was somewhat seriously prevalent, 109 cases being notified; but it is especially noteworthy that 95 of the cases in question were removed to the isolation hospital, and that Mr. Hollinshead is able to report a practical cessation of the epidemic. Drainage works are under consideration; much has been done in this matter as regards individual houses and as to local water-supplies; but the "worst of sanitary evils," the filthy midden-privy system of the old type, remains to foul the air and to constitute an incessant risk of disease. We earnestly endorse Mr. Hollinshead's plea for the abolition of these revolting structures.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6589 births and 3374 deaths were registered during the week ending July 30th. The annual rate of mortality in these towns, which had been 17·9 and 17·7 per 1000 in the preceding two weeks, further declined last week to 17·3. In London the rate was 17·5 per 1000, while it averaged 17·1 in the thirty-two provincial towns. The lowest rates in these towns were 6·3 in Burnley, 10·3 in Brighton, 11·8 in Croydon, and 12·9 in Gateshead; the highest rates were 20·5 in Salford, 20·6 in Leicester and in Wolverhampton, 22·8 in Sunderland, and 25·9 in Liverpool. The 3374 deaths included 585 which were referred to the principal zymotic diseases, against numbers increasing from 477 to 625 in the preceding five weeks; of these, 286 resulted from diarrhœa, 127 from measles, 56 from whooping-cough, 54 from scarlet fever, 41 from diphtheria, 18 from "fever" (principally enteric), and 3 from small-pox. No fatal case of any of these diseases occurred last week in Huddersfield; in the other towns they caused the lowest death-rates in Burnley, Hull, Newcastle-upon-Tyne, and Blackburn, and the highest rates in West Ham, Leicester, Sunderland, Cardiff, and Preston. The greatest mortality from measles occurred in West Ham, Croydon, Birkenhead, Salford, Halifax, and Sunderland; from scarlet fever in Preston; from whooping-cough in Swansea and Nottingham; and from diarrhœa in London, West Ham, Derby, Birmingham, Preston, Leicester, and Cardiff. The mortality from "fever" showed no marked excess in any of the large towns. The 41 deaths from diphtheria included 25 in London, 3 in Liverpool, 2 in West Ham, 2 in Norwich, and 2 in Manchester. Two fatal cases of small-pox were registered in Bradford and 1 in London, but not one in any other of the thirty-three large towns; 6 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and 3 in the Highgate Small-pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2664, against numbers increasing from 1226 to 2671 on the preceding eighteen Saturdays; 382 new cases were admitted during the week, against 323 and 382 in the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 185 to 158 in the preceding four weeks, further fell to 155 last week and were 23 below the corrected average. The causes of 55, or 1·6 per cent., of the deaths in the thirty-three towns were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Brighton, Portsmouth, Norwich, Bradford, Newcastle-upon-Tyne, and in seven other smaller towns; the largest proportions of uncertified deaths were registered in Croydon, Birmingham, and Liverpool.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 17·2 and 18·4 per 1000 in the preceding two weeks, declined again to 17·5 during the week ending July 30th, but slightly exceeded the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 13·4 in Leith and 14·3 in Aberdeen to 19·4 in Glasgow and 22·3 in Greenock. The 488 deaths in these towns included 19 which were referred to measles, 14 to whooping-cough, 10 to diarrhœa, 5 to "fever" 3 to diphtheria, 3 to scarlet fever, and not one to small-pox. In all, 54 deaths resulted from these principal zymotic diseases, against 62 and 66 in the preceding two weeks. These 54 deaths were equal to an annual rate of 1·9 per 1000, which was 1·1 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 13 and 28 in the preceding two weeks, declined again last week to 19, of which 11 occurred in Glasgow and 6 in Aberdeen. The deaths referred to whooping-cough, which declined from 27 to 13 in the previous five weeks, were 14 last week and included 11 in Glasgow. The 10 fatal cases of diarrhœa corresponded with the number in the preceding week and included 7 in Glasgow. The deaths referred to different forms of "fever," which had been 2 and 5 in the previous two weeks, were again 5 last week, of which 2 occurred in Glasgow. The deaths from diphtheria, which had been 7 and 5 in the preceding two weeks, further declined last week to 3, of which 2 were recorded in Leith. The 3 fatal cases of scarlet fever also showed a decline from recent weekly numbers and included 2 in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had declined from 71 to 59 in the preceding three weeks, rose again last week to 114, and were 49 above the number in the corresponding week of last year. The causes of 44, or 9 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 24·2 and 19·8 per 1000 in the preceding two weeks, rose again to 28·3 during the week ending July 30th. During the first four weeks of the current quarter the death-rate in the city averaged 23·5 per 1000, against 18·2 in London and 16·4 in Edinburgh. The 190 deaths in Dublin during the week under notice showed an increase of 57 upon the number in the preceding week, and included 8 which were referred to measles, 3 to diarrhœa, 1 to whooping-cough, 1 to "fever," and not one either to small-pox, scarlet fever, or diphtheria. In all, 13 deaths resulted from these principal zymotic diseases, equal to an annual rate of 1·9 per 1000, the zymotic death-rate during the same period being 3·7 in London and 1·2 in Edinburgh. The fatal cases of measles, which had steadily declined in the preceding six weeks from 27 to 7, were 8 last week. The 3 deaths referred to diarrhœa were within 1 of the number in the previous week. During the first four weeks of the current quarter the rate of mortality in Dublin from the principal zymotic diseases has not exceeded 2·2 per 1000, while it averaged 4·9 per 1000 during last quarter. The 190 deaths registered last week in Dublin included 35 of infants under one year of age and 41 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons exceeded the number recorded in the preceding week. Ten inquest cases and 9 deaths from violence were registered; and 75, or more than one-third, of the deaths occurred in public institutions. The causes of 21, or 11 per cent., of the deaths in the city last week were not certified.

CALCUTTA.

According to the latest reports from Calcutta—viz., the health officer's sick return for the week ending May 28th last—the total number of deaths registered was 206, against 219 and 270 in the two preceding weeks, and lower than the corresponding week of last year. There were 37 deaths from cholera, against 39 and 55 in the two preceding weeks; only 1 death from small-pox and 3 from tetanus. The general death-rate of the week was 23·0 per 1000 per annum against 20·1, the mean of the last five years. The total number of deaths in the amalgamated area of suburbs for the same week was 119. There were 16 deaths from cholera against 44 and 38 in the two preceding weeks; the number is lower than the average of the past three years. There were no deaths from small-pox. The general death-rate of the week was 28·8 per 1000 against 31·2, the mean of the last three years. The general death-rate of the combined area is equal to 24·8.

THE SERVICES.

NAVAL PRACTICE IN THE LANDING OF WOUNDED.

OUR contemporary the *Army and Navy Gazette* reports that recently and for the first time in the German Navy there has been a special exercise in the landing of wounded. The experiment took place at Kiel in the presence of the Emperor and the Grand Duke of Mecklenberg-Schwerin. Admirals Von der Goltz and Knorr with Dr. Wenzel, surgeon-in-chief to the Imperial Navy, were officially present. The idea was that the squadron had just suffered heavy loss in an engagement and that four line-of-battle ships had arrived at the port each with 500 wounded. The wounded were transferred to four steam transports and carried, under the care of the naval surgeons and attendants to four appointed places on shore, where they were placed in ambulance waggons and taken to the hospitals. This manœuvre in medico-naval drill is said to have been well and promptly executed.

MAGAZINE RIFLE FIRE.

The Intelligence Department of the Horse Guards has published a paper giving details of the experiments recently carried out at Spandau to illustrate the effect of German rifles. The experiments were undertaken at the suggestion of the Surgeon-General of the Army and conducted in the presence of a number of army surgeons.

MOVEMENTS OF THE MEDICAL STAFF.

Brigade-Surgeon-Lieutenant-Colonel Ferguson has arrived from Gibraltar and been posted to Portsmouth for duty. Surgeon-Lieutenant-Colonel Barrow has arrived in England on completion of a term of service in Hong-Kong. Brigade-Surgeon Temple has been appointed to succeed Surgeon-Major Roe on the recruiting staff of the London district. The deaths of Surgeon-Captain W. H. Bennet and W. H. Ball are reported. Surgeon-Major Wolseley has arrived at Chester for duty and Surgeon-Captain Wills at Burnley. Brigade-Surgeon-Lieutenant-Colonel Kilroy has been transferred from Limerick to Dublin. Surgeon-Captain Hubbard has joined at Woolwich from the Western district. Brigade-Surgeon-Lieutenant-Colonel Maunsell has left Mauritius for England on being relieved by Brigade-Surgeon-Lieutenant-Colonel Clapp. Surgeon-Major Chester has resumed his duties in Egypt from leave. Surgeon-Captain Swan has reported himself in Dublin on return from temporary duty.

For the first time, as we believe, for many years, the ratio of competitors for the British and Indian Medical Services, severally, is the same, there being two candidates for each appointment. There can be no doubt that the issue of the new rule limiting the number of occasions on which a candidate may compete to two for each Service has kept down the supply of competitors by excluding several who had no chance of success, and probably to this fact rather than to any decline in the popularity of the Services may be attributed the reduction of the aspirants.

ARMY MEDICAL DEPARTMENT.

Brigade-Surgeon-Lieutenant-Colonel William Johnston, M.D., leaves on retired pay (dated Aug. 3rd, 1892).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major George S. Elliston to be Surgeon-Lieutenant-Colonel (dated Aug. 3rd, 1892). Brigade-Surgeon-Lieutenant-Colonel J. S. MacAdam, Army Medical Staff, attains the age of fifty-five on the 3rd inst., and will be placed on retired pay. The Commander-in-Chief has sanctioned an exchange between Captain J. Flint, 1st Dragoon Guards, and Captain H. P. Levita, 4th Dragoon Guards. Major G. V. Ames, 1st Dragoons, is, on the completion of seven years' service as a Regimental Major, accepting promotion to a half-pay Lieutenant-Colonelcy. Brigade-Surgeon-Lieutenant-Colonel W. Johnston of the Army Medical Staff, is retiring from the Service. Surgeon-Lieutenant-Colonel C. E. Dwyer, now with the Medical Staff in London, has been ordered to join the staff in Ireland. The following Surgeon-Captains of the Army Medical Staff, having completed, on the 31st ult., twelve years' service, attain promotion to the rank of Surgeon-Major:—G. H. Sylvester, W. J. Macnamara, D. O'Sullivan, E. O. Milward, C. R. Woods, M. F. Macnamara, J. O. G. Sandiford, R. L. Love, H. W. Murray, M. W. Kerin, A. Peterkin, J. Harran, E. L. Maunsell, W. Heffernan, R, W. E. H. Nicholson, J. G. W. Crofts, W. Dugdale, D. L. Irvine, E. R. Cree, M. O'C. Drury, J. H. Nicholas, D. F. Franklin, and H. Saunders.

INDIAN MEDICAL SERVICE.

Surgeon-Lieutenant-Colonel S. M. Salaman, M.D., and Surgeon-Captain H. W. Stevenson respectively delivered over and received charge of Yerrowda Central Gaol on July 5th, 1892. Surgeon-Captain J. K. Kanga, of the 17th Regiment Madras Infantry, to the officiating Medical Charge of the regiment. Brigade-Surgeon-Lieutenant-Colonel S. B. Hunt, Surgeon, 3rd district, to be officiating Principal Medical Officer, Rangoon district during the absence on furlough of Surgeon-Colonel C. Sibthorpe. Surgeon-Major J. Anderson, M.B., Civil Surgeon, Bareilly, is appointed to be in Visiting Medical Charge of the Budaun district during the absence on leave of Surgeon-Major J. C. C. Smith, M.B. Surgeon-Captain H. E. Drake-Brockman, Civil Surgeon, is transferred from Etah to Mirzapur, on being relieved by Mr. W. H. Harding. Surgeon-Captain C. H. Leet Palk is appointed to be, from May 17th, 1892, Civil Medical Officer, Mandalay Shore, in addition to his military duties, vice Surgeon-Captain S. C. Dallas, transferred. Surgeon-Captain W. D. Sutherland is appointed to be, from April 21st, 1892, Civil Medical Officer, Fort White, in addition to his military duties, vice Surgeon-Captain C. L. Williams, transferred. Surgeon-Captain H. W. Pilgrim, Second Resident Surgeon, Presidency General Hospital, is appointed to act as First Resident Surgeon of that institution during the absence on leave of Surgeon-Captain J. H. T. Walsh, or until further orders.

Brigade-Surgeon-Lieutenant-Colonels Flemming and Cullen have been awarded the two extra pensions of £100 per annum allotted to Bengal during 1892–93, both having recently retired from service.

Surgeon-Captain Wilson, Indian Medical Service, died at Mandalay of cholera. This is the third officer who has died at Mandalay within the fortnight.

NAVAL MEDICAL SERVICE.—Surgeon Eric E. Kershaw to the *Nelson*, lent (dated July 26th, 1892).

VOLUNTEER CORPS.—*Artillery:* 6th Lancashire: Surgeon-Lieutenant R. H. Jones resigns his commission (dated July 30th, 1892).—1st Cheshire and Carnarvonshire: Surgeon-Lieutenant D. L. Hubbard resigns his commission (dated July 30th, 1892).—*Rifle:* 2nd Volunteer Battalion, the East Yorkshire Regiment): Surgeon-Captain W. Stephenson to be Surgeon-Major (dated July 30th, 1892).—4th Volunteer Battalion, the Cheshire Regiment): Surgeon-Captain K. Maclean resigns his commission (dated July 30th, 1892.—1st Volunteer Battalion, the Duke of Wellington's (West Riding Regiment): Surgeon-Lieutenant E. D. Wellburn resigns his commission (dated July 30th, 1892).

THE LATE SURGEON-GENERAL H. W. BELLEW, C.S.I., C.I.E.

We regret to announce the death of this officer of the Indian Medical Service at Farnham Royal, Bucks, on the 26th ult., aged fifty-seven. He was a distinguished Oriental scholar, a man of indomitable energy and industry, a great traveller, and well known as an able political officer and linguist. His career was altogether a remarkable one, and worthy of the Anglo-Indian school to which he belonged. He had a great taste for historical, antiquarian, and ethnological subjects, an aptitude for acquiring languages and a keen appetite for hard work of any kind. The services of a political nature he rendered to the Indian Government were so many and marked that it is surprising that they did not attract more notice and receive greater reward. He was the son of the late Major H. W. Bellew, Assistant Quartermaster-General of the Indian Army. In 1854 he went to the Crimean war, and in 1856 to India, where he joined the Guides, and was sent on the mission to Candahar, of which he subsequently published an account. He did good service in the Ambeyla campaign. In 1871 he accompanied Sir Richard Pollock on a political mission to Seistan and proceeded to the Persian capital. In 1873-74 he went on the Embassy to Kashghar and Yarkand. Selected for the purpose by the late Lord Lytton, he filled the post of chief political officer at Cabul during the Afghan war in 1879. He possessed and exercised much influence with the hill tribes. He was afterwards Sanitary Commissioner for the Punjab, and in 1885 he published a large volume of nearly 1000 pages on the history of cholera in India, but it was not as a doctor that he won his spurs and his name. His published works were "From the Indus to the Tigris," a narrative of a journey through Belochistan, Afghanistan, Khorassan and Iran in 1872, with a grammar and vocabulary of the Brahoe language; "Kashmir and Kashghar," a narrative of the journey of the Embassy; "The Races of Afghanistan"; and a dictionary and grammar of the Pukkhto—or Pakshto—language. The late Surgeon-General was married to a sister of that thorough soldier, General Sir Charles MacGregor, whose relatively early death in Egypt a few years ago was regarded as a great loss to India.

THE LATE DR. JOHN FORBES WATSON.

We regret to announce the death of Dr. Forbes Watson, M.A., M.D., LL.D., on the 29th ult., after a protracted illness. The late officer belonged to the Bombay Medical Service, which he joined in 1850. He was educated at the University of Aberdeen, of which he was a graduate. Whilst in India he served on the Scinde frontier and afterwards filled the post of lecturer on Clinical Medicine at Grant College, but ill-health compelled him to return to England. At home he took up a number of questions—all of some public utility and some of them important. On his recommendation a commission was appointed to inquire into the nutritive value of the food grains of India. A large amount of valuable information was obtained, which led to several practical reforms. In 1858 he was appointed reporter on the products of India and director of the Indian Museum, and he acted as referee to the Secretary of State on all questions connected with Indian products and manufactures. He took an active part in most of the international exhibitions of late years, and his labours in this and other respects connected with India and the Indian Museum prepared the way for the Imperial Institute. In 1879 his department was broken up and he retired from the service. He was a man of scientific attainments and great knowledge of all subjects connected with India, more especially in relation to its industrial, commercial, artistic and ethnological aspects.

GUARDS BARRACKS AT BERLIN.

The Army Medical Blue-book just published contains a paper on the progress of hygiene for the year 1891 by Brigade-Surgeon-Lieutenant-Colonel J. Lane Notter, Professor of Military Hygiene at Netley, in which, among other subjects, allusion is made to the barracks of the 3rd Regiment of Guards at Berlin. The barrack buildings enclose a large square, which serves as a parade ground. They are described as compact and well built and arranged on the corridor system—i.e., all the rooms open on to corridors running the whole length of the building. The rooms are small and do not appear to be well ventilated. The men sleep in cots arranged in double tiers on one side of the room. The only ventilation aperture seems to be in the lower panel of the door opening on to the corridor and the openings of the windows. The allowance of air space for each man is not more than 16 cubic metres.

ARMY MEDICAL SCHOOL, NETLEY.

The sixty-fourth session of this school was brought to a close last week, when the distribution of prizes took place, Colonel Hanning Lee, late Assistant-Adjutant-General, Netley, performing the ceremony. The proceedings were carried out in the Lecture Theatre of the Royal Victoria Hospital, in the presence of a numerous gathering of the staff connected with the hospital, together with the ladies of their families and friends of the Army Medical School, including Colonel H. A. Bushman, C.B., Assistant-Adjutant-General; Surgeon-Major-General G. L. Hinde, C.B., Principal Medical Officer; Sir Joseph Fayrer, K.C.S.I.; Sir Thomas Longmore, C.B.; Surgeon-Major-General S. A. Lithgow, C.B., D.S.O.; Surgeon-General Crookshank, Deputy-Surgeon-General H. Cayley, Surgeon-Colonels Hamilton and Godwin; Lieut.-Colonels Haldane and Stokes and the other members of the Army Medical Staff stationed at Netley. Professor J. Lane Notter announced that all the gentlemen who presented themselves at the recent examination, both for the Indian and British services, had qualified for commissions. He then read the following lists of Surgeons on probation who were successful at both the London and Netley examinations. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions are determined by the marks gained in London added to those gained at Netley.

INDIAN MEDICAL SERVICE (Seventeen).

	Combined Marks.		Combined Marks.
*Haig, P. B.	6062	Smith, G. M'I. C.	5418
Fullerton, T. W. A.	5908	Earle, H. M.	5388
†Maddox, R. H.	5841	Hulbert, J. G.	5237
‡Hugo, E. V.	5819	Swinton, F. E.	5172
Melville, H. G.	5786	Burnett, S. H.	5168
Hubbard, A. O.	5631	Jackson, T.	5102
Robson-Scott, C. G.	5594	Gabbett, P. C.	5076
Smith, H. A.	5450	Macrae, J. L.	4603
Green, D. R.	5428		

* Gained the Montefiore medal and prize of 20 guineas, with the Martin memorial gold medal and the prize in clinical medicine presented by Surgeon-General W. C. Maclean, C.B.

† Gained the De Chaumont prize in hygiene.

‡ Gained the prize in pathology presented by Sir Joseph Fayrer, K.C.S.I.

BRITISH MEDICAL SERVICE (Twenty-five).

	Combined Marks.		Combined Marks.
†Hinge, H. A.	5660	Erskine, W. D.	4807
*M'Naught, J. G.	5646	Thompson, A. G.	4796
Bray, H. A.	5641	Chambers, A. J.	4793
M'Dermott, T.	5515	Moore, G. A.	4682
Slayter, E. W.	5341	Lewis, R. C.	4638
Thurston, H. S.	5191	Austin, R. F. E.	4612
More, L. P.	5042	O'Reilly, W H.	4552
Hodgens, C. O'C.	4944	Marder, N.	4493
Tyrrell, A. F.	4889	Condon, E. H.	4476
Ryall, W. F.	4851	Mansfield, G. S.	4433
Jones, T. P.	4843	Faichnie, F.	4399
Walker, G. S.	4833	Read, H. W. K.	4397
Smyth, W. J.	4820		

* Gained the Herbert Prize of £20.

† Gained the Montefiore Second Prize.

Colonel Hanning Lee then distributed the prizes and said he should like to thank the Senate and officers and members of the school for their kindness in asking him to come to present the prizes. He hoped that every officer he saw before him, whom he was sorry to part with and whom he sincerely congratulated, would be far more successful even than they had been at Netley. Dr. Allchin pointed to the different circumstances under which the profession was learnt by the private and the military doctor and alluded to the disadvantages met with in civil practice as compared with military practice. Sir Joseph Fayrer also spoke and, in the course of some eminently practical remarks, paid a touching tribute to the memory of the late Sir William Aitken, whose form, he said, seemed to rise before him there. The guests then adjourned to the Medical Staff Mess for afternoon tea.

THE CHAIR OF PATHOLOGY AT NETLEY.

We have already directed attention to the question of the professorships at Netley as affecting the interests of both the Army Medical Service and its school; and we then said that it seemed to us to be distinctly in the interest of the public service that such professorships should be regarded as prizes for medical officers who should be encouraged to develop a high standard of professional knowledge, and qualify themselves for appointments in their own special institutions. If we may judge from the communications we have received on the subject of the appointment of the late Sir William Aitken's successor at the Army Medical School it is causing strong dissatisfaction in the minds of many medical officers. Against the personal, scientific and professional qualifications of the gentleman nominated there is not a word to be said; they are undoubtedly of a high order; but that is not the question; it is one of principle. It is not pathology in its general sense, such as is taught at our medical schools and Universities, that is the point at issue; the appointment at Netley is a special one and has for its main object the consideration of climatic and other forms of disease incidental to military life and service, concerning which, it is urged, army medical officers must be better qualified, from the nature of their duties and personal experience, to speak than a civilian without these advantages. The views of the founders of the Army Medical School were evidently in accordance, too, with those we have expressed above. At the time the school was moved from Chatham to Netley, early in the year 1863, they reported they were all agreed that the professorships should be held by army medical officers when men of sufficient competence offered themselves, and they trusted that they would all be so held when it could be done with advantage to the school. These views received the approval of the then Secretary of State for War. The question about the successorship to a post at Netley resolves itself, therefore, into whether there are medical officers of sufficient competency in the army or among those who have retired from it. It cannot, surely, be seriously maintained that among the ranks of the Indian and British medical services no one could be found to fulfil all the requirements of the post in question.

Correspondence.

"Audi alteram partem."

CLASSICAL CULTURE AND THE PROFESSION.

To the Editors of The Lancet.

Sirs,—I hope it may not be thought captious, as it certainly is not superfluous, to point out an important error into which Professor Cuming has been betrayed in the course of his admirable Address in Medicine at the late meeting of the British Medical Association. "I come to bury Cæsar, not to praise him" is a text which would fairly describe Professor Cuming's attitude towards the two learned languages which for so many centuries have formed the basis and the instrument of intellectual culture throughout Europe, and which are inextricably interwoven with the structure of all scientific language—not least with that of Medicine itself. Still it may be that the tendency of events is, as Dr. Cuming alleges, that the mental condition of our professional successors will be one of complete denudation as regards all knowledge of Greek and Latin, as well as of Chemistry. These are debateable points, and I trust their realisation may be as far distant as the exhaustion of our coal fields or the approach of a glacial epoch; but that to which I desire to call attention is not debateable, though it is unfortunately obscured by certain inveterate and long-standing prepossessions in the minds of the educated public. "Greek seems doomed past recall," says Dr. Cuming: "Latin will make a harder fight to retain its place, and will probably succeed in retaining it." Now, these are certainly very curious *obiter dicta* on the part of a speaker who shows so much evidence of learning and culture as Dr. Cuming, seeing that Latin is a hopelessly dead language, while the tongue of Greece is as much alive and as unbroken in its continuity as that of England. Greek at the present day is not only the national speech of the Hellenic kingdom, but is the universal daily medium of communication throughout the east of Europe and a large part of Asia; in Egypt it is more generally spoken than any language except Arabic; numerous excellent journals possessing a wide circulation are printed in it, and it can boast a considerable current literature both in serial and book form. A distinguished Hellene has lately translated the whole of Dante's "Divine Comedy" into Greek, and this very year the University of Edinburgh has established a fund for the purpose of enabling a certain number of its students to go to Athens to acquire the native tongue. These facts do not look like the symptoms of approaching dissolution, but, on the contrary, betoken healthy growth and vitality; and I hope they may serve as an adequate excuse for my entering a *caveat* against Professor Cuming's too sweeping generalisation that "Greek seems doomed past recall." I remain, Sirs, your obedient servant,

Sussex Gardens, July 31st, 1892. T. Fitz-Patrick.

VACCINATION AND PUBLIC SCHOOLS.

To the Editors of The Lancet.

Sirs,—It may possibly prove interesting to some of your readers to learn the result of an inspection of a large number of children attending the public elementary schools of this town. The Cardiff board of guardians, having received information that small-pox in an epidemic form had occurred in various parts of the kingdom, instructed the public vaccinators to visit the schools and inspect the children's arms with a view of discovering those who had escaped vaccination. The School Board and the managers of the sectarian schools readily gave their assent to this course, and the various masters and mistresses cordially assisted me in my work. Altogether the number of children inspected by me amounted in round numbers to 8000, and the total number of those children who had no marks whatever amounted to 270. The parents of these were communicated with by the vaccination officer, and most of them have complied with the notices served on them. In addition to those who had no marks of any kind there were at least 15 per cent. of the total number who had either very imperfect marks or only one or two well-defined marks. Although the latter could not be said to be well protected, it was thought advisable only to recommend their parents to have them revaccinated. I apprehend there would have been some difficulty if these imperfectly vaccinated children had been ordered to be vaccinated again. It was an easy matter to distinguish those children who had been vaccinated at a public vaccination station from those who had been done by private practitioners. I am more than ever convinced that all vaccination should be in the hands of gentlemen specially appointed for the purpose and who should at the same time be restricted from practising any other branch of the medical profession. Until some scheme of that kind is adopted we can never expect to find the public properly protected from the ravages of small-pox. At the present time private practitioners are somewhat jealous of the public vaccinators; but if they (the private practitioners) could be assured that there was no chance of their patients being interfered with this jealousy would soon cease to exist. There would not be any great difficulty in carrying out such a scheme if the medical profession were in favour of it. The public must not have any ground of complaint. Their children would not be operated upon unless the sanction of their family doctor had been obtained, and they would have the satisfaction of knowing that the operation had been thoroughly well done. Those who wished to have their children done privately could still do so on paying a stipulated fee, and it would be easy to arrange for vaccination direct from the calf at regular times.

I am, Sirs, yours faithfully,

Cardiff, July, 1892. T. Garrett Horder.

THE DIAGNOSIS OF HEAD INJURY FROM DRUNKENNESS.

To the Editors of The Lancet.

Sirs,—In looking over some of the back numbers of The Lancet I notice an article by Dr. J. H. Waters (Sept. 26th, 1891) regarding the difficulty of diagnosis of head injury in police practice and his method of removing the effects of alcohol sufficiently to permit of a diagnosis. As he suggests, a cell, or even a police station, is not a good place to form a correct diagnosis, and the frequency with which one finds symptoms very much obscured by alcohol is well known to police surgeons. A method which I employed while engaged in a very active emergency service in New York City, and which to-day is in extensive use in this class of cases, answers every purpose desired, and is more easy of application and devoid of the *danger attendant upon the* inhalation of ammonia. By pressure upon the supra-orbital notches, compressing the nerve, a diagnosis of alcoholism may with absolute certainty be made in a few seconds, thus differentiating on the spot between coma due to alcoholism, injury or disease. Where no result is obtained, one may, with almost positive certainty, look for some other cause of coma. In no case have I failed with this method, and so certain became I of its infallibility that, without waiting to further examine for head injury where no result was obtained, I took the patient to the hospital sure of a "case." A case of alcoholism pure and simple will, upon the application of this pressure, immediately show very evident signs of life, and, be the coma ever so deep, the effect of the alcohol will for a short time be sufficiently removed to permit a thorough and rapid examination. The absence of result from this method should at once cause great suspicion of some cerebral trouble due to injury or disease. I would add, that to quiet hysterical convulsions, in hiccough, in alcoholic mania and for the detection of malingerers, there is, to my mind, nothing superior.

I am, very truly yours,
L. L. VON WEDEKIND, M.D., U.S. Navy.
U.S. Naval Hospital, Chelsea, Mass.

PERFORATION OF INTESTINE IN TUBERCULOUS PERITONITIS.

To the Editors of THE LANCET.

SIRS,—The interesting paper by Drs. Fenwick and Dodwell, which appeared in THE LANCET of July 16th and 23rd has recalled to my mind a paper I read before the Leeds and West Riding Medico-Chirurgical Society two winters ago on "Four Cases of Tuberculous Peritonitis, three being treated by Operation," and some suggestions I ventured to make upon them. Two of the cases, one operated upon by Dr. Kilner Clarke and the other by myself, died, the first some six weeks later of fæcal fistula, which developed before the abdominal incision had healed my own case, some months after operation, rupture of the intestine and of the abdominal wound occurring three months after the latter had soundly healed and the patient had been going about. In my case and another on which I successfully operated about the same time diarrhœa was a marked symptom, which nothing in the way of treatment seemed to control. Immediately I had cleaned out the abdomen, however, the diarrhœa ceased and did not recur, the recovery being uninterrupted. I asked if this was commonly the case and if it was unreasonable to suppose that the presence of pus in the peritoneal cavity had not set up such irritation of the intestine as would encourage a settlement of bacilli in an exhausted area, which would be more liable to fall a prey to the germ under these conditions. That there is a close physiological connexion between the peritoneum and the intestines there can be no doubt, and, directly or indirectly, the bowels remove the fluid collections from the peritoneal cavity as from other parts of the body. The singular and immediate cessation of diarrhœa in these and other cases of the operation, the steady improvement in most up to a certain point, seem to lend plausibility to the idea that the intestine being relieved from its overwork is either protected from the formation of a tuberculous ulcer, or is enabled to throw off the disease and recover itself if the products of tuberculous inflammation are removed from the peritoneal cavity before the process has gone too far. In the two cases first quoted this was evidently not the case, but in the second case it was almost done soon enough.—I am, Sirs, yours truly,

GEORGE A. HAWKINS-AMBLER, F.R.C.S. Edin.
July 20th, 1892.

"THE SMOKE NUISANCE IN LONDON."

To the Editors of THE LANCET.

SIRS,—So far from an apology being necessary for introducing at this season the subject of the smoke nuisance in London, I think the community should thank you for the timely remarks of your leading article, for it is now that one of the chief remedies indicated can be most easily applied—the substitution, namely, of gaseous for solid fuel in our houses. Everyone who takes an interest in this important question is aware that many methods have been proposed for obviating the intolerable evils of London smoke fogs. But of all these there can be no doubt, it seems to me, that, according to our present knowledge, means and opportunities, the adoption of gas fires is the most feasible, and one which there is no difficulty in applying during the summer months, when fires are not being burnt. If householders are to wait before adopting a new plan till some ideally perfect substitute is invented for the barbarous and wasteful coal fire, the Greek kalends will be here before London is freed from its annually thickening pall of winter filth. I would therefore urge every inhabitant of this great city to combine to relieve it of what is little short of a disgrace to its appearance and a slur on its reputation. This could be done by bringing pressure to bear on the County Council and the metropolitan M.P.'s, whose successful endeavours would stamp them as true public benefactors. It is wonderful that enthusiasm has not been already aroused. The evils of London smoke and smoke fogs are universally admitted and bewailed: the damage to valuable books, furniture and pictures, the grimy appearance of our public edifices, the greasy black mud of our streets, the flight of wealthy people from town for many months, the gloomy depressing skies, the choking atmosphere, the pallid looks of the regular denizen, the direct injury to health, increased mortality, the interruptions to traffic, the loss to trade, the dangers of accident, the encouragement of crime, the diminution of sunlight, the consequent decrease of animal and vegetable vitality and other almost innumerable bad results. Is it not strange, then, that the community, though loudly complaining, takes no active steps to heal this ever-magnifying sore? London, which from its size, wealth, position and constitution, is the leading city in the world, seems content at the same time to remain, at least during winter, the most hideous and repulsive. I would appeal especially to the medical profession, which in the past has conferred such immense boons on the people by teaching the remedy for various dangers to the public health, to continue its philanthropic efforts in dealing with the nuisance of London smoke. The field may be wide, but it is worthy the attention of scientific men. There is no reason why the metropolis should not all the year round be one of the fairest and most attractive of towns, and it is equally certain, while coal is consumed in our grates, that it will remain the very reverse.

I remain, Sirs, yours faithfully,
Thurloe-place, S.W., July 26th, 1892. H. R. OSWALD, M.D.

"THE SIGNIFICANCE OF FLY BITES."

To the Editors of THE LANCET.

SIRS,—Having read your annotation on the above subject in THE LANCET of July 23rd, I think the following case may be of some interest to your readers.

S. W——, aged twenty-five, was admitted to the Devon and Exeter Hospital on July 11th, under Mr. Bell, with the following history. He was a compositor by trade. Eight days previously, when at a beanfeast, he was bitten on the proximal phalanx of the left index finger by a fly, presumably a gad-fly. No notice was taken at the time, but the finger began to swell and the wound to ulcerate, and for three days before admission he had had great pain. On admission the man looked very ill indeed. Temperature 103·6°; respiration 60; perspiring freely. On the finger was a yellowish sloughing wound the size of a two-shilling piece; the hand was swollen and œdematous; there was well-marked cellulitis up the arm; no swelling in the axilla. Examination showed pleurisy at the left base of the lungs. Mr. Bell made free incisions into the arm and wound and ordered copious stimulation; but in spite of all efforts the patient died within eleven hours of admission, apparently of acute septicæmia. Post-mortem examination showed a very fluid condition of the blood and all the organs macroscopically healthy, with the exception of the lungs, which were riddled with very large infarcts and where there was extensive pleurisy at the base. The case is interesting in view of the sad occurrence reported in a former number of THE LANCET.

I am, Sirs, yours faithfully,
Exeter, July 26th, 1892. G. STEWART ABRAM, M.B., B.C.

"CURES" FOR INEBRIETY.

To the Editors of THE LANCET.

SIRS,—Since Dr. Keeley's letter in your issue of July 30th utterly fails to deal with the real question at issue, I fear that most of your readers will consider it unworthy of any reply. As, however, he has introduced my name rather prominently therein and as entire silence on my part might under the circumstances seem strange, perhaps you will be good enough to grant me space for a few words. What I would say to Dr. Keeley is this: If his remedy is a genuine cure for inebriety, and on his own showing it has been used for thirteen years, why does he not prove its efficacy to the satisfaction of the profession in Great Britain by submitting it fairly and openly to the opinion of a committee of British physicians? Does he imagine for one moment that such a committee would refuse to recognise his work or the merits of his drugs, providing the claims he aims at establishing are sustained? Let Dr. Keeley approach the leaders of the profession here in a proper spirit, and he may rest perfectly assured of fair and unbiased treatment. Either his remedies are really useful and deserve praise, or they will not stand the light of investigation.

With regard to the latter alternative I need not proceed further. If the remedies are valuable, then the maintenance of the secrecy now shrouding them is, both professionally and scientifically, indefensible. Analyses, reported here and in America, have failed to detect gold in the composition of the mixtures sold, so that a lack of confidence in the whole system has arisen.

With regard to the charges of inaccuracy which he endeavours to advance as to the narrative of my visit to Dwight, I may mention that I propose dealing with that matter in my work on "Alcoholism and its Treatment," which will be published in a few days. Without bandying words with him, however, I beg to say that it is entirely incorrect that I have said that "three eastern physicians visited Dwight while I was there," &c., or "that I went there to purchase the right of using his remedies in Australia." If I had found that a new and successful treatment was in use there under the same circumstances of openness and professional rule as elsewhere, I should have been quite prepared to bring such treatment before the profession in Great Britain and Australia. I went to the place with that purpose in view and was disappointed with what I found. During the conversation with Dr. Keeley at Dwight he intimated that he would get his nephew (Dr. Keeley) to take me to the treatment hall. A little later we passed into the main building and met Dr. Blaine, "chief of staff," to whom Dr. Keeley introduced me. I accompanied Dr. Blaine to the treatment hall, the nephew having gone out. If Dr. Blaine was an "Irish bottle washer," he deserves praise for the position he has attained to. On the other hand, if he still is entitled to be called a "bottle washer" and fulfils the functions of "chief of staff" as well, he is to be congratulated on the infinite variety of his talents.—I am, Sirs, your obedient servant,

J. E. Usher.

Wimpole-street, W., Aug. 3rd, 1892.

⁂ A continuance of this correspondence would be as unsatisfactory to the disputants as it would be unprofitable to our readers. We have already, in our desire to be fair, accorded more space to these unprofessional methods of treatment than we had intended, and, so far as we are concerned, the correspondence must now definitely terminate.—Ed. L.

THE CHOLERA IN PARIS.

(From our Special Correspondent.)

Dr. Daremberg, the well-known correspondent of the *Journal des Débats*, has had the courage to declare that genuine cholera prevails in Paris and the neighbourhood. A summary of his article has been telegraphed to the English press, and it completely confirms the information I had already forwarded some weeks ago. Dr. Daremberg says (and this was not mentioned in the telegraphic summary of his article) that Dr. Netter, working in Dr. Proust's laboratory, Dr. Chantemesse in Dr. Cornil's laboratory, and Dr. Roux at the Pasteur Institute, have all found, in the dejections of the Paris cholera patients, the comma bacillus which Dr. Koch discovered in India, which Dr. Straus found during the cholera epidemic at Toulon in 1884 and which Dr. Calmette is now cultivating in Cochin China. It is difficult to see what better proof is required than this; but it is urged that in some case the comma bacillus has not been present. Dr. Daremberg replies that this only shows that other microbes can produce the same choleraic symptoms. In this respect it may be mentioned that Dr. Peter, of the Necker Hospital, has also made bold to defy the authorities in their attempt to conceal the true character of the present epidemic. To him political and administrative considerations are of no concern—he has to deal exclusively with the scientific aspect of the question, and as a man of science he is bound to say that the cases described in official documents as "choleriform diarrhœa" present very clearly marked characteristics of Asiatic cholera. In Dr. Peter's laboratory the comma bacillus was discovered some time before it was found by Dr. Netter. It was on July 5th last that I wrote stating that the comma bacillus had been seen in the dejections of the patients; and in those days it was little short of high treason to make such an assertion. Now, however, its truth can no longer be denied.

Dealing with the cause of the epidemic Dr. Daremberg propounds a theory which is open to question. On the one hand he adopts the germ theory, and yet he condemns the irrigation works at Gennevilliers, where a third of the Paris sewage is utilised for agricultural purposes. He seems to think that sewage farms may become mere cholera beds; but the water of the Paris sewers, after it has been utilised for the fertilisation of Gennevilliers, is collected by underground drains and falls into a brook. On analysis this water is found to be absolutely free from microbes. It is drunk by the visitors who go to Gennevilliers. I have drunk the water and have seen hundreds of other people drink it. The water the people receive who have had the cholera is the water of the Seine and there the sewage has no means of purification, but mixes with the water or forms heavy deposits on either bank. Not only the present epidemic, but the epidemics of 1884 and 1866 commenced in the suburbs of the west of Paris; that is to say, in the districts situated near the portion of the river receiving the principal outfalls of the Paris sewers. The river, it seems, rather than the sewer farm, is the cause of contamination, particularly if we consider that this contamination occurred before the sewer existed.

The number of deaths from cholera in and about Paris are now supposed to exceed 400, yet the epidemic has not yet taken root in Paris itself. In the suburbs it exists only in the north and west of Paris, just by that bend of the Seine which seems to be especially contaminated; but within the walls of Paris the cases are scattered in every direction. For instance, there has been a death from cholera at No. 11, Rue des Islettes in the Goutte d'Or district—that is the extreme north—and another at 63, Rue Blanche. This latter is in the centre of Paris and to the south of the other case. A man aged twenty nine died in the Rue Tiphoine, at Grenelle (S.W.), and another in the southern centre of Paris, Rue Notre Dame des Champs. There have been deaths at 3, Rue Rennequin in the Ternes (N.W.); impasse Boudran in the extreme south of Paris; 31, Rue Francois-Gérard, at Auteuil, extreme S.E.; another at Grenelle in the same direction, but not so far. Then there were deaths at Clignancourt, Necker, Porte Dauphine, and Combat, districts which are respectively to the north, the south, the west and the north-east of Paris. I could continue the list, but I have mentioned a sufficient number of cases, all of them ending fatally, to show how scattered is the disease. It has not as yet created in Paris any particular focus, and the cases are as widely spread out in respect to time as they are geographically. This is very different to the experience of the epidemic of 1884 when once it got within the walls of Paris. The disease ran its course in the following manner:—On November 3rd, 1884, there was I death, on the next day 3 deaths and the day after 18. The number of deaths for each of the following days was as follows:—On the fourth day, 14; on the fifth, 28; and then, for each succeeding day, 76 deaths, 94, 97, 78, 83, 66, 70, 45, 36, 47, 28, 34, 26, 17, 19, 10, 14, 8, 3, 11, 2, 7, and after that at intervals, a few more cases bringing the total number of deaths up to 955, which, with the cases brought into Paris from the outskirts, made a grand total of close upon a thousand deaths. On that occasion the first cases in Paris occurred in the central districts of the Arsenal, near the Bastille; the Art et Metiers, close to the Boulevard Sebastopol; and the Halles. After that the asylum, or Hôpital Breteuil, in the south-west of Paris was infected and the rag-pickers' quarters in the Cité Jeanne d'Arc.

Warned by the past, the authorities have been looking sharply after the rag-pickers, and have discovered a nest of rag-sorters in the Clichy district, who were living in such conditions of filth and overcrowding as to seriously endanger the public health. These unfortunate people have received peremptory orders to quit their present quarters, and they have only been allowed ten days to remove. But they cannot find any other lodgings. No one will take rag-pickers as tenants; also their trade does not bring in sufficient profit to enable them to pay high rents. As it is, they only pay from 1s. to 2s. a week for a room and some 3s. a week for a ground floor of two rooms, where they accumulate and sort the rags, paper and the other refuse they pick up in the streets. It is difficult to blame these rag-pickers for their endeavours to utilise waste products; but undoubtedly they render the houses in which they live filthy and unhealthy. Such people fall ready victims to any epidemic—they were the principal sufferers at the last cholera epidemic—and it is only natural and right that the authorities should take measures against them. At the same time their lot is a hard one. and it is with much pleasure that I am able to announce Baron Rothschild has sent £200 for their relief. The rag-pickers are certainly suffering for the public good. and it is only fair the public should come to their assistance.

Paris, Aug. 2nd.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Sunderland Infirmary.

THE ninety-third annual report of the Sunderland Infirmary has been issued. It states that 2065 in-patients were treated during the past year; of which number 1206 received surgical treatment (394 being from accidents of a serious nature) and 857 were medical cases. The mortality was 5·1 per cent. The number of out-patients treated (such as minor accidents &c.) was 2649. The total subscriptions received from the working classes amounted to £4403. The Sunday schools collection shows a gratifying increase of £39. The expenditure during the year was over £9260, an increase of £417, caused chiefly by certain alterations rendered necessary by the erection of the isolation block.

The New Infectious Diseases Hospital at Wallsend.

The building of this hospital is being rapidly pushed forwards. The site of the new building which is being erected in accordance with a mutual agreement between the joint authorities of Wallsend, Willington Quay and Howdon, is on a breezy eminence about a mile on the north side of Wallsend and is equidistant from the joint townships named above. The erections within the enclosure cover two acres. I hope in a future letter to give you a fuller description of the hospital, which comprises four blocks of buildings.

The Walker Hospital.

The annual meeting of the Walker Hospital has been held. This is principally a workmen's hospital, treating about 500 cases in the year, and it is pleasant to record that more than one-half of the income is derived from working men's collections.

Darlington.

A great demonstration of the Darlington Friendly Societies was held on Sunday last in the public park, in aid of the Convalescent Home at Grange-over-Sands, which was in every way a success. I think, however, that the *Northern Echo* made the following remarks upon somewhat insufficient information, asking—viz.: "Where were the Darlington medicos yesterday? No doubt some had 'part work' to do. It seems odd that the good object sought to be attained by the gathering in the park was not better patronised by the faculty." I can answer the question to some extent, as I met many medical men last week from Darlington and neighbourhood at Nottingham, where the British Medical Association was being held for the advancement of medical science. Now suppose a proportion were there it would of course leave more to do than walking in a park, however otherwise pleasant for those who remained at home. I believe that very few got home from the meeting from such distant points as Darlington to commence their work on Sunday. Many on the other hand made Nottingham the starting point for their short and well-earned holiday. At a late meeting of the sanitary authority a letter was read from the Local Government Board with regard to a resolution passed by the authority asking the Board to withdraw measles from the list of infectious diseases (Notification Act), which stated that it appeared to the Board that the sanitary authority had not taken full advantage of the opportunity of repressing measles, and of instructing the people how they may themselves assist in checking its spread. The Board could not but think that if that had been done more satisfactory results would have been obtained.

Middlesbrough.

The Middlesbrough Friendly Societies' demonstration in aid of the North Riding Infirmary, Ormesby Cottage Hospital and the Middlesbrough Nursing Association had to be abandoned owing to the inclement weather on Sunday last so far as the usual procession went, but a large and successful meeting was held in the Town Hall; so it is to be hoped that the local charities will not suffer.

Poisoning Cases.

A fatal case of poisoning by carbolic acid has occurred at Consett. A nurse, wishing to give a patient a dose of medicine (in the dark), gave carbolic acid instead. Death took place after much suffering in a few hours. A child aged six died in Newcastle the other day from hemlock poisoning. She and another child aged four were playing in a lane in one of our suburbs, where they saw some hemlock lying and, picking it up, ate a little of the flower; they became rapidly ill and the elder child expired in one hour. The other child fortunately vomited freely and was soon brought round. I do not remember a more rapid case than the above, but of course the plant is at its period of activity at present.

Asylum Accommodation in Yorkshire.

At the latest meeting of the West Riding County Council Alderman Woodd moved that the Asylum Committee be empowered to provide additional accommodation at the Menston Asylum, in view of the increase in the number of pauper patients requiring care and treatment in the West Riding. The committee in its report expressed its belief that, though the number of such patients had risen from 3272 in 1890 to 3394 in the last year, "it would not be safe to assume an abnormal increase in lunacy in the West Riding." Mr. Woodd's resolution was adopted.

Newcastle-on-Tyne, Aug. 3rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Congress of Sanitary Association of Scotland at Aberdeen.

THIS annual Congress was held at Aberdeen on July 27th, 28th, 29th and 30th. The meeting on Wednesday was formal. On Thursday the Marquess of Huntley, honorary president of the Association. occupied the chair and delivered the opening address. He referred to the question of grants in aid of public health, holding that, in fairness to Scotland, such grants should be continued and even increased. He believed that if the powers conferred by the Housing of the Working Classes Act were more generally known, they would be taken advantage of by district committees and proprietors in removing insanitary dwellings and substituting good cottages in their place. He attributed a good deal of the immigration of rural labourers to the towns to the condition of their dwellings. Resolute progress had been made in sanitation; but the feeling that more could and ought to be done was spreading, and when really called into action would become an irresistible force. Four papers were read and discussed: Consumption in Relation to Public Health, by Dr. Neil Carmichael, Glasgow; The Period of Infectiousness in Scarlet Fever, by Dr. R. M. Beattie. Aberdeen; Worm Nodules in the Lungs of Sheep, by Dr. J. T. Wilson of Aberdeen University; and Diseases transmissible from the Lower Animals to Man, by Mr. J. McL. Young, M.R.C.V.S. of Dundee. On Friday, papers were read by Dr. Macdonald (Aberdeen) on Tuberculosis in Common or Barndoor Fowls; and by Dr. Rennet, (Aberdeen) on the Progress of Typhoid Fever in Aberdeen and other Principal Scotch Towns. After addresses by Mr. Gilbert Thomson (Glasgow) and Mr. K. Cameron (Aberdeen) a paper was read on the Progress of Cremation, by Mr. John Mann (Glasgow). This led to a motion being carried to the effect that cremation of the dead, especially in cases of infectious disease, was a rational hygienic process, and that local authorities should be empowered by Parliament to build crematoria. Saturday was devoted to the inspection of places and appliances of interest.

Aberdeen Medical Staff Corps.

Last week fifty men of the 7th (Aberdeen University) Company, Volunteer Medical Staff Corps, left Aberdeen for a week's training at Aldershot. They were under the command of Surgeon-Captain MacGregor and presented a smart soldierly bearing as they marched from their new headquarters to the railway station.

Public Health Prosecutions at Aberdeen.

A house proprietor was convicted last week of permitting drains to remain foul in his houses after repeated notices from the sanitary staff to get them cleaned. A light fine was imposed. Another householder at Torry was convicted of having failed to notify to the authorities the existence of cases of measles in his house. The magistrate dwelt on the dangerous nature of the offence and imposed a fine of five shillings.

The Health of Aberdeen.

The following is a return of the zymotic cases noted last week:—Town: Measles, 29; scarlet fever, 21; diphtheria, 2; whooping-cough, 25; erysipelas, 6; total cases, 83; being an increase of 31 as compared with last week. County: measles, 2; scarlet fever, 20; typhoid fever, 3; erysipelas, 1—total 26.

Aberdeen University Medical Graduation.

The ceremony of "capping" the successful students was performed on July 27th, when twelve gentlemen proceeded to the degree of M.D. and thirty to those of M.B. and C.M. Three gentlemen received the D.P.H. and one the degree of B.Sc. In addressing the graduates Principal Sir William Geddes spoke of the extension of the University buildings scheme. He mentioned that over £70,000 of the £80,000 required was already promised and that soon the scheme would be workable. He sketched the history of the scheme and warmly eulogised the various friends of the University who had furthered its interests.

Graduation Ceremonial at Edinburgh University.

Mr. Robert Murray Leslie, M.A., B.Sc., M.B., C.M., was awarded the Ettles Scholarship as the most distinguished graduate in Medicine, and the Stark Scholarship of £100 in Clinical Medicine. Mr. Leslie previously graduated M.A. and B.Sc., with the highest honours and obtained the Baxter Biennial Science Scholarship (of £142) as the most distinguished graduate in science.

Aug. 3rd.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Royal College of Surgeons.

A MEETING of the Fellows will be held on Thursday, pursuant to the provisions of the Supplemental Charter, to witness the election of six examiners for the diploma in dentistry—viz., three Fellows of the College and a similar number of registered dentists.

Death of Henry Croly, Sen., M.D., J.P.

This gentleman died at his residence, Greenfield, Rathfarnham, on Sunday last, at the ripe age of eighty-six years. He was of a kind and genial disposition and enjoyed the respect and esteem of all with whom he came in contact. He practised for over half a century at Rathfarnham, where he was for many years medical officer of the district, and retired some years ago on superannuation. He enjoyed wonderfully good health and looked hale and hearty until shortly before his death. For some years he examined in midwifery in the Royal College of Surgeons. The deceased leaves two sons, both members of the profession—Henry Gray Croly, the well-known Dublin surgeon and late President of the College of Surgeons, and Albert Croly, medical officer to the Rathfarnham Dispensary.

North Dublin Union.

At a meeting of the guardians last week a communication was submitted from the Local Government Board enclosing a copy of orders which they had put in force, prohibiting the importation of rags into Ireland from France, the ports of the Black Sea, the Sea of Azov, and parts of Turkey in Asia. They requested the Board to see that the orders were carried out by the medical officers of the union.

Health of Dublin for June Quarter.

The births registered in the Dublin registration district for the June quarter numbered 2625, or 30 per 1000, while the deaths amounted to 2730. or 31·2. the rate being 4·6 over the average for the quarter. Zymotic diseases caused 502 deaths, or 23 above the previous quarter, the rate being 4·1 above that for the corresponding quarter of last year. Over 64 per cent. of the total number of deaths from zymotic diseases was due to measles, which caused 322 deaths, the disease being far more fatal in the city than in the suburbs. Whooping-cough caused 60 deaths, against 73; enteric fever 14, a decided decline; typhus fever 4, or an increase of 3; while scarlet fever only caused 1 death, against an average of 23. Among the remaining deaths from zymotic diseases were 27 from influenza, 4 from diphtheria and 18 from diarrhœa and dysentery. In 249 instances the cause of death was not certified and of these 180, or 72 per cent., were deaths of children under five years of age, these 180 deaths forming 17·5 per cent. of the total number of deaths of children of that age. Of the deaths of 115 children under one month old registered, there were 55, or 48 per cent., in which the cause was uncertified.

Sir W. Stokes has been appointed surgeon-in-ordinary to the Queen in Ireland, in the room of Mr. Colles, deceased.

The Local Government Board will hold an inquiry in Drogheda next week regarding the alleged insanitary condition of Chord burial ground.

Aug. 3rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Artificial Feeding of Infants.

M. BUDIN has lately conducted some experiments on the above subject in his wards at the Charité Hospital, and communicated the results to the Académie de Médecine on the 19th ult. The system followed in his practice is to administer to all the newborn children, for the first three days, cow's milk sterilised by means of Soxhlet's apparatus; this sterilised milk supplementing or replacing the maternal supply according to circumstances. The milk is given undiluted with water. Should the quantity of the mother's milk be sufficient the artificial product is not given. If the maternal supply is deficient, or absent, the sterilised milk is continued wholly or partially. Notes were taken of these three categories of infants under observation from April 1st to June 28th, 1892. Of 89 fed exclusively at the breast after the third day the average daily gain of weight was 28 grammes 17 centigrammes. The average daily gain of weight from the second day of 91 infants submitted to the mixed diet was 18 grammes 16 centigrammes, the corresponding average in 11 infants fed on sterilised milk only being 14 grammes 24 centigrammes. The average daily increase in weight for the 191 infants, taken together was 22 grammes 59 centigrammes. Of the 89 breast-fed children 6 had diarrhœa, whilst 7 such cases occurred amongst the 91 mixed-diet infants and none amongst the 11 artificially fed. In no instance was the diarrhœa severe, and all the little patients recovered. It will be noticed that the development of the nursling, as judged by the daily increase in weight, was most marked in the case of the breast-fed, less in the partially breast-fed and least of all in the artificially fed. The total absence of gastro-enteric complications amongst the children brought up exclusively on sterilised cow's milk is an important feature of M. Budin's communication. That physician is, however, very emphatic in his preference for breast feeding and pronounces strongly in favour of daily weighings as being the most reliable means of ascertaining its physical progress.

Treatment of Fractures of the Patella.

M. Berger related to the Société de Chirurgie the details of an operative procedure for procuring osseous union in fracture of the knee-cap. The subject of the operation was a little girl whose patella was fractured transversely, the upper fragment comprising four-fifths of the bone. The limb was put up in a plaster-of-Paris splint and maintained in a raised position. No union having taken place at the end of forty days, suture of the fragments was decided upon. Unfortunately, after the opposed surfaces of the parts had been pared, the lower and very diminutive piece broke into two unmanageable portions in the attempt to bore through it for the passage of the silver wire. M. Berger very ingeniously surmounted the difficulty by encircling the patella with a silver wire, which, after traversing the triceps tendon, at the level of its insertion into the bone, was taken along the sides of the bone and finally brought to the point of departure after having transfixed the ligamentum patellæ. The periosteum and the skin wound were then sutured, and the limb fixed in a gypsum apparatus. The results were admirable, all the joint movements being perfect and the union all that could be desired.

The Cholera in France.

The cholera epidemic appears to be making no further progress in the suburbs situated to the north of Paris. At Clichy blocks of buildings, which sheltered about 300 families of ragpickers have been condemned on account of their insanitary state and the wretched denizens have been promptly evicted. The brothers Rothschild have, with characteristic kindness, forwarded a sum of 5000 francs to be distributed amongst these victims of sanitation. The epidemic at the lunatic asylum of Bonneval, in the Department of Eure-et-Loir, which broke out on the 17th ult., is almost extinct. It is a curious fact that, although the male and female inmates lived under identical hygienic conditions, only the women were attacked, every man escaping. In the first few days of the outbreak the symptoms were exceedingly violent, and were sudden in their invasion, They consisted of nausea and vomiting, colics, pains in the extremities, with cramps, pale, profuse and involuntary stools. Then came algidity with blueness, slight œdema of the extremities, and an imperceptible radial pulse. From the very onset the features were drawn and the choleraic physiognomy was quite characteristic. A fatal result ensued in from twenty-five to thirty-six hours—sometimes in twelve or fifteen hours, in one instance in only four hours and a half. In a few days after the beginning of the outbreak the disease assumed a milder type, and recovery or death took place after some days of illness. Up to Saturday last the number of inmates attacked was forty-one, no less than twenty of these succumbing. Cases as they occurred were promptly isolated in a special building and every drop of water consumed or used for toilet or domestic purposes was previously boiled. As your readers know, Seine water has been very generally held responsible for the epidemic which has been creating such havoc since April in the suburbs of Paris. The following facts lend support to this theory. The faubourg of Mazagran is situated partly in the town of Argenteuil, partly in the village of Sannois. The houses touch, all the inhabitants belong to the working classes and the sanitation is equally bad in all the habitations. On the Argenteuil side, the Mazagranais are supplied with Seine water, whilst the people living at the other, or Sannois end, drink only water derived from the River Oise. Amongst the first class numerous (and often fatal) cases of cholera have occurred, while the people who drink Oise water have hitherto remained immune.

Paris, Aug. 3rd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Cholera.

THE Prussian Ministry of Ecclesiastical, Educational and Medical Affairs has caused the following statement to be published in the papers of what it is most necessary for all and sundry to know regarding cholera, an example well worthy of imitation by all similar authorities throughout the world: "1. The virus of cholera is in the evacuations of the patients, and can be transferred with them to and into other persons and in the most various things with them and be carried about. Such things are, for instance, linen, clothes, articles of food, water, milk and other drinks; and with all of them, even if only the slightest traces of the evacuations, not perceptible to the natural senses, exist on or in them, the pestilence can spread. 2. It easily happens, therefore, that the contagion is carried from place to place by persons who are or have been ill of cholera or have come into contact with such, and who leave their places of residence in order, as they think, to escape the danger that threatens them there. This is all the more to be warned against, as, on the one hand, one may be already infected before departure, and, on the other, one can protect oneself better at home than elsewhere, especially when travelling, by taking the following precautions. 3. People should not be received into houses from places where cholera exists. As soon as cases of cholera have occurred in a place, persons coming from it must be regarded as possible bearers of the germ of the disease. 4. Lead as regular a life as possible. Experience teaches that all disturbances of digestion make one specially susceptible to cholera. Be on guard, therefore, against whatever can produce such disturbances, such as excessive eating and drinking and indigestible foods. Avoid especially whatever causes diarrhœa or irritates the stomach. In case of diarrhœa, however, consult a doctor at once. 5. Eat and drink nothing coming from a house where cholera is present. Things by which the disease can easily be transmitted—for instance, fruit, vegetables, milk, butter, fresh cheese—must be avoided or taken only after being boiled. Especially the drinking of unboiled milk is to be avoided. 6. All water which may be polluted by excrement, urine, kitchen refuse, or other dirt must be most rigorously avoided. Water taken from the ground under inhabited places, or from swamps, ponds, drains or rivers, is suspicious, because impurities generally flow into them. Water polluted in any way by the excrements of cholera patients is especially dangerous. Special care must be taken that water that has been used in cleaning vessels or dirty linen does not get into or even near wells or standing and running waters. The best protection against the pollution of well water is afforded by iron tube wells driven straight and sufficiently deep into the earth (Abyssinian wells). 7. If it is impossible to get free from suspicious water, it must be boiled, and only boiled water drunk. 8. All this applies not to drinking water alone, but also to all water used for domestic purposes, because germs of disease can be communicated to the body by water used in cleansing kitchen utensils, cleansing and cooking food, washing, bathing, &c. In general, the belief that drinking water alone is to be regarded as the bearer of the virus and that one is completely protected if only unexceptionable water is drunk, is urgently to be warned against. 9. Every cholera patient may become the starting-point for the further spread of the disease, and it is therefore advisable to send such patients to hospitals. If this is impossible, nobody must be permitted to approach them without necessity. 10. Never enter a house with cholera in it except at the call of duty. Never visit places where many people are assembled in cholera times. 11. Never eat, drink, or smoke (even for one's own sake) in rooms in which there are cholera patients. 12. As the evacuations of cholera patients are specially dangerous, clothes and linen soiled with them must either be burned at once or disinfected in the manner stated in the instructions for disinfection published simultaneously with this. 13. The most scrupulous care must be taken that cholera evacuations do not get near wells or rivers serving as sources of water-supply. 14. All articles coming into contact with patients which cannot be destroyed or disinfected must be rendered harmless by means of hot vapours in special disinfecting establishments or not used for at least six days, during which they are kept in a dry and airy place exposed as much as possible to the sun. 15. Persons who come into contact with a cholera patient or with his bed or clothing should wash their hands at once, especially if soiled with the excrement of the patient. Do not touch food with unwashed hands or put into the mouth eating and drinking utensils, cigars, or anything else that may have been soiled in the sick room. 16. In case of death the corpse must be removed to a mortuary as soon as possible. If it cannot be washed there it ought not to be washed at all. The funeral should be as simple as possible. The guests should not enter the house of death or take part in any funeral feast. 17. Articles of dress, linen and other things that have been used by cholera patients or been in contact with the corpses of such patients must on no account be used or given to others till they are disinfected. Especially they must not be sent to other places unless disinfected. The receivers of packages containing such articles from cholera places are urgently advised to send them at once, if possible, to a disinfecting establishment, or to disinfect them themselves with the necessary precautions. Cholera linen ought not to be received for cleaning till it has been disinfected. 18. No other preservatives against cholera are known, and the public are advised not to use the medicaments—cholera-brandy &c.—which are always puffed in cholera times."

Berlin, Aug. 2nd.

Obituary.

W. F. CUMMING, M.D. EDIN.

A TYPICAL specimen of the accomplished physician has just passed away in the octogenarian Dr. Cumming, who died on Wednesday, July 27th, at Loch Baa, Mull, Argyleshire. A cadet of the clan Cumming of Altyre, he was born on the banks of the Findhorn on Oct. 26th, 1805, and like his two brothers—one of whom was a distinguished colonel of the 21st Fusiliers and the other an able and much-employed surgeon—he was destined to make his mark in the world. He studied medicine at the Edinburgh School, graduated as doctor and shortly thereafter entered the medical department of the East India Company's service. His health, at no time robust, declined in the tropical climate. He came back to Scotland, and in 1836, after consultation with his professional friends, set out on a prolonged tour which included Italy, Greece and the Ottoman Empire as far as Egypt. A record of his travels is embodied in his once popular and even now eminently readable "Notes of a Wanderer in Search of Health," of which the first volume was inscribed to his chief, Sir W. G. G. Cumming, Bart., of Altyre, and the second to his accomplished fellow traveller, V. F. Campbell, Esq., of Islay. The book, which teems with a racy sagacity characteristic of the author, is notable for its anticipation of the now general opinion as to the value of Egypt as a resort in chest disease, from which he himself was a sufferer. Coupled with this shrewd appreciation of the steady, dry, pure, restorative air of the desert was his not less emphatic recommendation to study prudence under medical advice—the two conditions of real and lasting benefit derivable from any climate whatever. He was in himself a striking confirmation of the soundness of this rule, and, though more than half an invalid till long past middle life, he kept himself in health of body and mind sufficient for all the requirements of a physically and mentally active life. Later in his career he visited Germany and Belgium and—always a keen observer—he made their lunatic asylums an object of special study. His experience fructified in a work of high merit entitled "Notes on Lunatic Asylums in Germany and other parts of Europe"—a work which contributed effectively to the introduction of the non-restraint system now so largely and so profitably practised at home and abroad in the treatment of the insane. Dr. Cumming's connexion with the Argyll family led to his acting as body physician and as travelling companion to the Marquis of Lorne (the present duke)—a post which none could have filled better than he, having regard to the cultured and refined tastes which he divided with his accomplished pupil. The friendship then formed and cemented drew still closer the intimacy between them, and when the duke became Lord Privy Seal in the Earl of Aberdeen's cabinet Dr. Cumming was made his private secretary, a post he again took when his Grace accepted office under Lord Palmerston. Not long after the second of these appointments the doctor, who was a keen angler, paid the penalty of his enthusiasm by contracting a paralytic affection of the lower extremities due to prolonged exposure in an open boat to cold and wet. This he never got over; but he did not allow it to lessen his indulgence in sport. In his summer quarters on Loch Baa, Mull, from the door of his lodge to the shore of the loch, he had a tramway constructed, and along this he was conveyed in a basket-carriage, from which he was easily transferred to a boat in which he landed quite as many salmon as in his prime. With all this passion for open-air life he was a reading man of fine taste and exemplary assiduity, his favourite authors being Milton and Johnson among the English and Burns and Scott among his compatriots. "He never passed the Scott monument in Prince's-street," writes one who knew him well, "without lifting his hat and insisting that anyone with him in the carriage should pay the same homage to the Wizard of the North." His independence in matters of opinion political and religious made him indifferent, as Byron says in "Don Juan":

> "To Trojan or to Tyrian,
> And, like his sires, a moderate Presbyterian."

For his *alma mater* he retained to the last an overflowing affection—appropriately typified in his donation of the fountain which adorns the University quadrangle. For many years he was the guest of his sister Lady Coxe (wife of Sir James Coxe, the accomplished Commissioner in Lunacy for Scotland) whose beautiful residence at Kinellan he occupied after their death, making it in turn the scene of much kindly and cultured and highly appreciated hospitality. To the last he took a lively interest in political contests, in the Midlothian election of 1880 being "lifted from his carriage into a basket-chair, which was wheeled into the polling station. But," adds the friend to whom we are indebted for most of the above details, "the chair could not be got into the polling booth." In this dilemma an appeal was made to the polling sheriff, who, at his wit's end to meet a contingency not provided for under the Ballot Act, yielded at last to the doctor's insistance and had a ballot-paper brought out to him. The doctor then made his "X" on the crown of his hat.

He was never married, and his lovely suburban residence at Kinellan passes into the possession of Sir J. Coxe's daughter, Mrs. Rose-Innes. Dr. Cumming's funeral, starting from Kinellan, took place at Edinburgh on Tuesday, August 2nd, and was attended with every mark of respect by a large number of professional friends and of the general public.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AT an ordinary meeting of the Council of the Royal College of Surgeons, held on Monday, the 1st inst., the minutes of the quarterly meeting of the Council held on July 14th were read and confirmed.

The Secretary reported the death on July 19th of Mr. Frederick Le Gros Clark, F.R.S., past president, past member of the Council and of the Court of Examiners of the College. A resolution of condolence was unanimously passed and directed to be sent to Mrs. Clark and the family on their sad loss.

The museum and library will be closed as usual during the month of September for the purpose of a general cleaning.

Sir W. Mac Cormac was re-elected a member of the Court of Examiners in Surgery and Mr. J. C. N. Davies-Colley was elected an Examiner in Surgery in the vacancy caused by the retirement of Mr. Bryant.

Dr. H. J. Campbell was elected a Professor of Comparative Anatomy and Physiology in the vacancy left over from the last meeting. A letter from Dr. Liveing reporting the proceedings of the Royal College of Physicians on July 28th was received and read.

It was agreed that the annual meeting of Fellows and Members of the College should be held on Thursday, Nov. 3rd, at 3 P.M., and that the usual notices should be issued.

A committee was then appointed to consider and report on the standing rules and to submit a revised copy to the Council; also to consider any resolution of the Council at present extant on the proceedings of the Council. The members of this committee are the President and Vice-Presidents, Messrs. Macnamara, Rivington and Tweedy.

Mr. Macnamara moved, and Mr. Langton seconded, the following resolution, which was agreed to:—"That it be referred to the Nomination Committee to consider and report to the Council whether any, and if so what, alterations are desirable in the arrangements for the museum and other lectures." The next meeting of the Council will be held on Thursday, October 13th.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen, having passed the necessary examinations, have been admitted by the two Royal Colleges Diplomates in Public Health:—

Aldridge, Arthur Russell, M.B. Edin. (Edinburgh), Southampton.
Armin, *Henry Charles Leffler*, *L.R.C.P.*, M.R.C.S., Surgeon Captain Indian Medical Staff (Charing-cross), Hinde-street, W.
Bailey, W. Henry, M.B. Lond., M.R.C.S. (St. Barth.), East Dulwich.
Best, William Jenner, M.R.C.S. (London), Louth, Lincolnshire.
Coates, Henry Honiton, L.R.C.P., M.R.C.S. (St. Barth.), Soho-sq., W.
Gay, John, L.R.C.P., M.R.C.S. (St. Barth. and King's Coll.), Putney.
Gibson, James Hill, M.D. Q.U.I. (Dublin and Belfast), Maida-vale.
Hall, John Moore, M.B. R.U.I. (Belfast and King's), Old Ford road.
Hoyle, James Collings, L.R.C.P., M.R.C.S. (St. Barth.), Gray's-inn.
Mann, Harold Edward, L.R.C.P., M.R.C.S. (St. George's), Homerton.
Orr, William Young, M.B. Edin. (Edinb. and King's), Putney.
Preston, George, L.R.C.P., M.R.C.S. (Manchester), Saltash, Cornwall.
Priest, James Damer, M.R.C.S. (St. Barth.), Waltham Abbey.
Ricketts, Thomas Frank, L.R.C.P., M.R.C.S. (Guy's), Cheltenham.
Schorstein, G. Isidore, M.B. Oxon. (Oxford and Lond.), Portland-pl.
Scott, Sack Roy, L.R.C.P., M.R.C.S. (Charing-cross), Lewisham.
Tratman, Frank, M.B. Lond., L.R.C.P., M.R.C.S. (Lond. and Bristol), Bristol.
Wilkie, John, M.B. Lond. (Univ. Coll. and St. Barth.), Buckingham-street, Adelphi.

Eight candidates were referred.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentleman, having previously passed the necessary examinations and having now attained the legal age (twenty-five years), has been admitted a Fellow of the College :—

Drew, Douglas, M.B., L.R.C.P. Lond., Gloucester-place, W.; diploma of Member dated July 28th, 1890.

The following Licentiates of the Royal College of Physicians of London, having previously passed the necessary examinations and having conformed to the by-laws and regulations, have been admitted Members of the College :—

Ali, Subhan, Islington.
Atcherley, John, Leeds.
Baker, J. Charles, Kentish Town.
Ballance, H. Ashley, Hampstead.
Barham, C. W. R., Saffron Walden.
Barnes, H. Cooper, Philpot-street.
*Blake, H. Elliot, Guy's Hospital.
Bliss, E. W., Brierley Hill, Staffs.
Bond, W. Ernest, Little Britain.
Bowie, R. Arthur, Store-street.
Brimacombe, R. Wm., Worcester.
Brown, H. Corser, Tipton, Staffs.
Bull, Stanley Arthur, Kensington.
Bunch, F. V., Gloucester crescent.
Buttar, Charles, Stratford-place.
Carwardine, Thomas, Willesden.
Canlet, Grenville W., Guilford-st.
Charles, B., South Hampstead.
Cross, Geoffrey, Brixton.
Cutcliffe, M., Witheridge, Devon.
Darker, Geo. F., St. George's-sq.
Davies, Richard, Hereford.
Dixon, Charles Arthur, Leeds.
Dove, Frank, Colchester.
Dunderdale, R. H. W., Blackpool.
Eames, E. T. Philip, St. Johns.
Edwards, Frederic W., Forest Hill.
Fowler, Jas. Stewart, Edinburgh.
Fraser, Herbert St. John, Sutton, Surrey.
French, H. C., Shoeburyness.
Fyffe, Reginald J., Forest Hill.
Gaskell, Arthur, Dartmouth.
Gedge, A. Syd., South Clapham.
Girdlestone, Howard E., Brixton.
Gladstone, R. J., Old Aberdeen.
Goodwin, T. H. J. C., Paddington
Graydon, A., Philbeach gardens.
Griffith, R. C., Upper Woburn-pl.
Griffiths, S. A. E., Corinne-road.
Hague, John, Ashton-under-Lyne
Hainsworth, E. M., Blackheath.
Hamlen-Williams, T. R., London
Harris, Frank Drew, Clapham.
Hartnell, E. Bush, Borough.
Harvey, J. Harold, Little Haven, Pembrokeshire.
Heath, Arthur Douglas, Exeter.
Hemsted, E. Spencer, Whitchurch, Hants.
Henry, Robert, Putney.
Hepburn, M. L., New Kent-road.
Hessey, Jas. D., Mornington-pl.
Horn, P. H., Albert-street, N.W.
Jaffe, C. S., Westbourne-terrace.
James, R. B., Stratford-on-Avon.
Jenkins, John E. M., Wimbledon.
Jones, John, Mornington-cresc.
Kent, Sydney, Sevenoaks.
Kilby, St. John B., Chiswick.
Knapp, M. Henry, Paddingdon.
Lanford, Morris Chas., Padstow, Cornwall.
Lightfoot, J. Parker, Brixton.
Loos, W. Chris., Upper Norwood.
McCormack, C. Vincent, Liverpool.
Mackeson, Guy, Courthope-rd.
Milner, A. E., Lansdown-place.
Milton, A. R. Octavius, Lambeth.
Mosley, G. Frederic, Sinclair-rd.
Morton, J. Leyden, Kilburn.
Musgrave, C. B. T., Notting-hill.
Nellen, G. F. Marshall, Brighton.
Newton, H. W., West Hampstead.
Nicol, James Main, Leeds.
Ortlepp, Albert J., Harrow-road.
Osborn, Francis A., Falmouth-rd.
*Parker, William, Holloway.
Parrott, Albert Geo., Chingford.
Perry, S. Herbert, Frederick-st.
Perry, W. Arthur, Bournemouth.
Pethybridge, W. Ley, Plymouth.
Pickering, R. Neville Umfreville, Upper Berkeley-st.
Posnett, Edward, Leeds.
Potter, Walter, York.
Powell, W. A., Battersea Rise.
Randall, Martin, Hendon.
Ransome, H. F., Altrincham.
*Renny, Eustace Geo., Pimlico.
Rock, Cecil Howard, Lewisham.
Russell, J. Ronaldson, Dartford.
Sawers, J. Lorimer, Blackheath.
Sheurer, J. Gerrit, Highbury-park.
Scotson, Fredk. C., Warrington.
Selby, E. W., Albert-street, N.W.
Selby, William, Croydon.
Shaw, A. Eiand, Wandsworth.
Sims, J. Hedley, Osborn-terrace.
Smith, Edwin, Wandsworth.
Smith, Norman Ireland, Windsor.
Smith, Wm. Robt., King's College Hospital.
Spencer, Chas. Geo., Norland-sq.
Sproat, Jas. Hugh, Birmingham.
Squibbs, R. E. P., Albert-street.
Staddon, Henry Ernest, Ipswich.
Steggall, S. L. J., Queen-square.
Stewart, Jas. Allan, Notting-hill.
Strange, A., Knebworth, Herts.
Sutcliffe, Wm. G., Larkhall-lane.
Swabey, Maurice, Bath.
Sylvester, H. Mayris, Caroline-place, W.C.
Templeton, George, Kilmarnock.
Thomas, R. S., Starcross, Devon.
Tipping, Henry Hubert, Alcester, Warwickshire.
Toller, Neville Percy F., Lambeth.
Tweedy, R. C., Redruth, Cornwall.
Vincent, Wm. James Nathaniel, Newcastle-on-Tyne.
Vinrace, M. H., Birmingham.
Wall, Frank, Totteridge.
Walter, R. Arthur, Woburn-sq.
Walters, A. Radclyffe, Reigate.
Walters, F. Wilfred, Sydenham.
Watkins, W., Turner-st., Mile End.
Wesley, F. W., Burlington House.
West, W. Goldsborough, Thaxted.
Wheatcroft, E. Woodiwiss, Derby.
White, Jas. A. H., Birmingham.
Williams, George C. Waldemar, Peckham.
Williams, H. J. E. Hutchins, Lee.
Williams, Herbert Whitley Skey, Holywell, North Wales.
Willock, E. Hulse, Norwood.
Willson, J. Wherry, Bernard-st.
Windsor, Frank N., Manchester.
Winter, Laurence A., Woodford.
Withers, F. Ernest, Reading.
Wright, S. F., Bickley, Kent.
Wroughton, Wm. Chas. Haulton, Highbury-hill.
Wysard, Alex. T., Denmark-hill.

The following gentlemen have also been admitted Members :—

Austin, J. H. E., L.R.C.P. Edin., Chiswick.
Connell, Richard Watson, L.S.A., Lorrimore-square.
Hancock, H. R., L.R.C.P. Irel., Burslem, Staffordshire.
Hawley, Frederick Holme, L.S.A., Timberland, Lincolnshire.
*Michie, W. A., M.B., C.M. Aberd., Greenwich.
*Soden, T. Armand Bourne, L.S.A., Newcastle-on-Tyne.
*Soilleux, Garnet, M.B. Melb., Clements-lane.
*Young, John C., M.D. New York, Bernard-street.

* Candidates who have not presented themselves under the Regulations of the Examining Board in England.

VICTORIA UNIVERSITY.—The degrees of M.B. and Ch.B. were conferred by the Vice-Chancellor of the Victoria University at Owens College on July 30th :—

First Class Honours: J. H. Crocker, Owens. *Second Class Honours*: C. R. Marshall, Owens. *Pass, First Class*: J. C. Buckley and F. J. H. Coutts, Owens; W. E. Davies, University; A. Greenhalgh, Owens; W. M'Lelland and J. B. Mawdsley, University; Alfred Murgatroyd, Owens; A. J. Partridge, University; C. H. G. Ramsbottom, Gruner Stowell, W. H. Waddington, and W. A. Williamson, Owens.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the July sittings of the above Conjoint Board the following candidates passed the Final Examination :—

Janet M. C. Gray, London: John C. Edwards, Oswestry; Joseph M. Roche, Liverpool; Hugh N. A. Taylor, B.A., Cambridge; Daniel MacCarthy, Cork; Robert A. Potterton, Dublin; Jas. G. Willis, Portarlington; William P. Willis, Shettleston; Geo. Ellis, Ossett; John James Brennan, Kilkenny; William R. Thrower, London; Henry C. Darby, Stourbridge; James P. T. Burke, Thurles; Cuthbert Rutherford, Glasgow; Alexander Wheeler, Edinburgh; Henry J. Cosgrove, Dumfries; Samuel E. Jones, Mold; Thomas Young, Irvine; Thomas W. Bartlett, London. *Division I.*—W. C. Alexander, C. R. Huxley. *Division II.*—W. Owen, R. T. Clark, W. W. Forrester, W. C. Alexander. *Division III.*—L. Burges, Wm. Owen, C. R. Huxley, A. A. D. Parke.

UNIVERSITY OF GLASGOW.—The following gentlemen received the degree of M.D. on July 28th :—

*Hugh Highet, M.B., C.M.; *Alexander Glen Park, M.B., C.M.; James Duncan, M.B., C.M.; Peter Fraser, M.B.; Robert Alex. Morton, B.Sc., M.B., C.M.; James Muir, M.B., C.M.; J. F. Muir, M.B., C.M.; John Stewart M'Conville, M.A., M.B., C.M.; Alex. Shanks, M.B., C.M.; John Pollock Simpson, M.B., C.M.; John Somerville, M.B., C.M.; William Callender Taylor, M.B., C.M.; Andrew Stewart Tindal, M.B., C.M.

* Received commendation.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS IN IRELAND: CONJOINT SCHEME.—The following have passed the Third Professional Examination :—

G. H. Ayres, Jeremiah Behane, A. C. Callaghan, Henry Carre, W. J. Coneys, L. F. Corbet, J. J. Dolan, C. P. Hannan, R. J. Harvey, E. L. Hunt, H. Hunt, P. K. Joyce, H. H. Moffat, C. E. Murphy, H. McDermott, J. G. Lanahan, M. J. O'Brien, W. F. Pigott, T. A. Poirotte, J. H. Power, W. F. Roe, C. R. Rothwell, R. Somerville, H. Sweeney, W. Taylor, Elizabeth A. Tennant, and H. G. Thompson.

NEW CONVALESCENT HOME.—Mr. Passmore Edwards having given a convalescent home to his native county, Cornwall, it was formally opened by Mrs. Edwards on the 1st inst. It is located at Perranporth, about nine miles from Truro, on the north coast and near to Blackwater. The home contains twenty beds for patients. Besides building and furnishing it Mr. Edwards has given £3000 towards its endowment. Mr. Edwards was present, and formally handed it over to the Governor of the Royal Cornwall Infirmary, Truro.

DEATH UNDER CHLOROFORM.—An inquest was held at Uxbridge-road, on the 2nd inst., on the circumstances attending the death of Mr. J. M. M. Bishop, which took place in St. Bartholomew's Hospital whilst undergoing an operation for the removal of a deep-seated abscess of the liver. The deceased was put under the influence of chloroform previously to the surgical procedures, and all went well until the operation had been almost completed, when the respiration suddenly ceased and all the means adopted to restore animation were found unavailing. The jury returned a verdict of "Death by misadventure."

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY, LIMITED.—At a meeting of medical men residing in the north of London, held at Tottenham on Thursday, June 30th, it was resolved to establish a division of this Society for the north of London. The following officers and council were elected subject to confirmation by the Central Council :—Divisional President: E. Hooper May, M.D., F.R.C.S. Vice-Presidents: D. Fairweather, M.B.; Frank Godfrey, L.R.C.P., L.R.C.S.; Frank Greaves, M.R.C.S., L.S.A.; G. Greenwood, L.R.C.P., M.R.C.S.; George Henty, M.D.; Charles P. Langford, M.R.C.S., L.S.A.; T. Boswall Watson, M.D.; W. T. Watson, M.D., M.R.C.S. Council: W. B. Benjafield, M.B., C.M.; J. B. Cook, M.R.C.S., L.R.C.P.; James Dawson, M.D., L.R.C.S.; W. Donston, L.D.S., R.C.S.I.; L. Grant, M.D.; Arthur Greenwood, L.R.C.P., M.R.C.S.; James Heath, M.D.; G. T. Penny, M.A., M.D., M.R.C.S.; J. J. Pitcairn, L.R.C.P., M.R.C.S.; G. H. Vos, M.B., M.R.C.S.; A. O. Ward, M.D., M.R.C.S.; E. Wood, L.R.C.P., M.R.C.S. Hon. Secretary: Lloyd G. Smith, M.D., C.M. It was resolved that three ordinary meetings of the Divisional Council should be held each year in the months of January, May and October, and that the annual meeting of the members of the division should be held in June of each year. Instructions were given for the issuing of circulars to all medical men residing in the district, inviting them to join the Society. The secretary was directed to lay the names of all applicants for membership before the Divisional Council previously to their being submitted to the Central Council for election, in order to assure the eligibility of the candidates.

DR. R. J. WHITE (Brentwood) has received notice that the Local Government Board have awarded him the Government grant for public vaccination for the third time.

HOSPITAL FOR THE LUDDENDENFOOT DISTRICT.—The local boards of Midgley, Luddendenfoot and Warley have agreed to jointly establish a hospital for infectious diseases. Each authority is to contribute to the cost and expenses of the hospital on the basis of the population.

OPEN SPACES.—The Trustees of the London Parochial Charities, at their last meeting, resolved to grant £2000 towards the fund for the acquisition of Hackney Marshes, and £1000 to the fund for the acquisition of the Paddington Recreation Ground.

DR. THOMAS N. BRUSHFIELD has been elected President of the Devonshire Association for the Advancement of Science, Literature and Art at the annual gathering to take place next year at Torquay. Sir S. Bowring, S. A. Froude, and the Rev. C. Kingsley are in the list of past presidents.

ST. BARTHOLOMEW'S HOSPITAL.—On July 28th, at a meeting of the governors of the hospital, at which Mr. Wire presided, the Lord Mayor proposed and Sir William Savory seconded the nomination of Sir Trevor Lawrence as treasurer of the hospital, in the room of Sir Sydney Waterlow, who has retired. There being no opposition, Sir Trevor Lawrence was elected.

BASINGSTOKE COTTAGE HOSPITAL.—The thirteenth annual meeting of subscribers to this institution was held in the Town Hall, Basingstoke, the Rev. A. G. Barker, president, being in the chair. The report stated that during the year seventy patients had been treated at the hospital, forty of whom were discharged cured and seventeen more or less improved. The balance-sheet, which was also submitted, showed the income to amount to £441 16*s.*

THE ROYAL HOSPITAL FOR CHILDREN AND WOMEN.—On July 30th the Lady Mayoress handed over to Mr. Edwin Lawrence, the chairman, and Mr. R. G. Kestin the secretary, of the Royal Hospital for Children and Women, Waterloo-bridge-road, a cheque for £1028 9*s.* 9*d.*, being the net profits from the rose show recently held at the Mansion House in aid of that institution. The committee have presented the Lady Mayoress with an illuminated address of thanks inclosed in a handsome album, and have elected her an honorary life governor of the hospital.

PRESENTATION.—A testimonial consisting of a claret jug and spirit stand has been presented to Dr. Robert Jones, medical superintendent of Earlswood Asylum, by the officers and staff "as a token of their admiration of his brave act in saving the life of a little child at the risk of his own." Dr. Jones sucked the tube in a case of tracheotomy for diphtheria in the child of an asylum *employé*, when an obstruction threatened the death of the patient. This heroic act was happily accomplished without contracting the disease.

FOOD ADULTERATION IN SHEFFIELD. — The health department of this borough is taking active steps for the protection of the public against adulteration of food, especially in respect to milk. Last week four milk-sellers were fined, in sums varying from £6 and £1 each and costs, for selling impoverished milk. A farmer was amerced in a penalty of 10*s.* and costs for want of cleanliness in the cow-shed in which his milk vessels were kept. In two cases for selling butter which contained a large percentage of margarine fines of £1 each and costs were inflicted.

PUBLIC HOSPITAL AND DISPENSARY, SHEFFIELD.—The work of this institution during the past year shows a satisfactory increase. The in-patients treated were 51 in excess of the previous twelve months. The expenditure had exceeded the ordinary income by £1058. The capital account had by legacies been increased by £3048 14*s.* 5*d.* After deducting the aforesaid deficiency the net increase was reduced to £1990 13*s.* 7*d.* The anticipated commencement of the new hospital had been delayed entirely from a desire to comply with the express wish of the corporation: but the difficulties had now been overcome and steps would shortly be taken for building the first block.

SANITARY INSTITUTE, LONDON.—The Duchess of Albany distributed, at the Parkes Museum, on Wednesday, the certificates to the ladies who had passed the examination following the lectures delivered at this institute on domestic hygiene. Sir Douglas Galton, the chairman, presented the report of the examiners, which spoke satisfactorily of the work accomplished.

ANCOATS HOSPITAL, MANCHESTER.—The annual report for the past year records a steady and increasing interest in the institution on the part of friends and subscribers. The number of beds available have been increased by the opening of No. 5 Ward, which leaves one ward only (the Memorial Ward) empty. This too could be filled, thus utilising the whole of the ward space in the Albert Victor wing, but the state of the funds forbid the committee incurring further expenditure. The small convalescent home at Wilmslow has been a boon to over 100 women patients. The financial statement shows a balance due to the bankers of £690. But the treasurer has received since the accounts were made up, a check for £1000 in memory of the late Mr. Oliver Heywood, and also a check for £1000 from Mr. Jardine.

PROPOSED NEW INFIRMARY, ISLINGTON.—On the 28th ult., at a meeting of the Islington guardians, the proposal to acquire a site for a new infirmary for the parish in Tollington-park came up for discussion. The chairman (Mr. J. S. Furlong) said a new infirmary was urgently needed, and the proposed site was a good one. It was objected to on the ground that the property in the neighbourhood would be depreciated, and he explained his reasons for deeming the objection a mistake, adding that in other parts of London such buildings did not damage the neighbourhood. Some discussion ensued, which resulted in a postponement of the further consideration of the question until the committee appointed by the opponents of the scheme could see the plans and lay their views before the board.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BISHOP, HENRY DRAPER, L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon at the London Hospital, Whitechapel.

BOYD, JAS. D., M.B., C.M., L.F.P.S. Glasg., L.R.C.P. Edin., has been appointed Public Vaccinator, Bendigo, Victoria, Australia.

BRYAN, FREDERICK, M.B., M.R.C.S., L.S.A., has been appointed Senior Assistant Medical Officer to the London County Asylum, Colney Hatch, vice W. H. George, deceased.

BURLAND, H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Finedon Sanitary District of the Wellingborough Union.

CHARLES, W. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to several Collieries in the Swansea Valley.

DOLAMORE, W. H., has been appointed Assistant Dental Surgeon to the Dental Hospital of London.

DOWLING, N., L.R.C.P. Lond., M.R.C.S., has been appointed Health Officer for the Borough of Portland, Victoria, Australia.

FLINN, J. J., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Belmont-road Workhouse of the West Derby Union.

GRATTE, C. B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Marshfield Sanitary District of the Newport (Mon.) Union.

GURNEY, HAROLD, L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of Health to the Borough and Port of Harwich, vice W. W. Hardwicke, resigned.

HEARNDEN, W. C., M.R.C.S., has been reappointed Medical Officer for the Headley Sanitary District of the Epsom Union.

HECTOR, E. B., M.B., C.M. Edin., has been appointed Medical and Vaccination Officer for Drighlington, Tong, and East Bierley.

HILL, T. E., M.B., C.M. Edin., B Sc., has been appointed Medical Officer of Health for the County of Durham.

HIRST, S. C., M.D. St. And., M.R.C.S., has been reappointed Medical and Vaccination Officer for Thornbury and Tyersal.

HOWES, H. A., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Hemingsby Sanitary District of the Horncastle Union.

JESSOP, J. W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Horncastle Sanitary District and the Workhouse of the Horncastle Union.

Jones, R. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Penryn Sanitary District of the Falmouth Union.

Kenny, G. G., M.B., C.M. Glasg., has been reappointed Medical Officer to the Waikato Hospital, Australasia.

La Touche, E. D., L.R.C.S. Irel., has been appointed Public Vaccinator at Wood's Point, Victoria, Australia.

Malcomson, J. A., M.D., M.Ch. Irel., has been appointed Medical Officer for the Middlesbrough Sanitary District of the Middlesbrough Union.

McFarlane, A., L.R.C.P. Lond., L.R.C.S., has been appointed Medical Officer for the Fourth Sanitary District of the Aylesbury Union.

Mearon, Wm. Britain, M.B. Lond., M.R.C.S., L.R.C.P., has been appointed Assistant Medical Officer at Wonford House Asylum, Exeter.

Osmond, E. B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Pontefract Sanitary District and the Workhouse of the Pontefract Union.

Perkins, H. A., M.D. Edin., M.R.C.S., has been appointed Honorary Medical Officer to the Totnes Cottage Hospital.

Phillips, D. W., M.R.C.S., has been appointed Medical Officer for the Second Sanitary District of the Winslow Union.

Posson, W., F.R.C.S. Eng., has been reappointed Medical Officer of Health to the Leeds Rural Sanitary Authority.

Smith, K. R., M.D. Lond., B.Sc., M.R.C.S., has been appointed Honorary Medical Officer to the Totnes Cottage Hospital.

Stephen, H. C., M.R.C.S., L.R.C.P. Lond., L.S.A., has been appointed Senior House Surgeon to the Bury Dispensary Hospital, Bury.

Vickers, C. W., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Paignton Sanitary District of the Totnes Union.

Wickham, O. A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Third Sanitary District of the Parish of St. Mary, Islington.

Williams, E. R., M.R.C.S., L.R.C.P. Lond., has been appointed Surgeon to H.M. Prison, Carmarthen, vice W. L. Hughes, resigned.

Vacancies.

Further information regarding each vacancy reference should be made to the advertisement.

ngham City Asylum.—Clinical Assistant. Board, lodging and washing provided.

y Dispensary Hospital, Bury, Lancashire. — Junior House Surgeon. Salary £60 per annum, with board, residence and attendance.

ty Asylum, Shrewsbury.—Junior Assistant Medical Officer. Salary £100 per annum and £8 in lieu of beer, with board, lodging and washing.

t and Canterbury Hospital.—House Surgeon. Salary £90 the first year, with board &c., rising to £100 the second year.

rpool Infirmary for Children.—Assistant House Surgeon for six months. Board and lodging provided.

don County Council.—Assistant Medical Officer of Health. Salary £500 a year, rising by annual increments of £50 until it reaches £600 a year. (Apply to the Clerk of the Council, Spring-gardens, S.W.)

nchester Royal Eye Hospital.—House Surgeon. Salary £70 per annum, with residence, board and washing.

nchester Hospital for Consumption and Diseases of the Chest and Throat.—Honorary Assistant Medical Officer.

nchester Royal Infirmary.—Resident Medical Officer, for one year. Salary £150 per annum, with board and residence.

ssrs. Munk & Adie, Solicitors, 27, Clement's-lane, E.C.—Medical Man to act as Director on the Board of a small Provident Company.

lsford Asylum, near Wallingford, Berks.—First Assistant Medical Officer. Salary £130, rising by £10 per annum to £150, with rooms in Asylum, and board.

al United Hospital, Bath.—Honorary Physician.

ckport Medical Aid Association.—A qualified Assistant. Salary £120 per annum (out-door). (Apply to Mr. Bourne, Station House, Stockport.)

rminster Union.—Medical Officer and Public Vaccinator for the Hinton District. Salary £40 per annum, with fees for Vaccination; the ordinary Midwifery cases, attended under orders, 10s., and extra medical fees for treatment of fractures &c. (Apply to the Clerk, Poor-law Offices, Sturminster Newton.)

ffolk General Hospital, Bury St. Edmunds. House Surgeon. Salary £100, with board, lodging and washing.

rnbury Union.—Medical Officer for the Almondsbury District. Salary £70 per annum, with extra fees for midwifery cases, and for the operations and services specified in the Orders of the Local Government Board, and also at per case for public vaccination, under contract. (Address to the Clerk to the Guardians, Thornbury.)

k Retreat.—Senior Assistant Medical Officer. Salary £150 per annum, with board and lodging.

Births, Marriages, and Deaths.

BIRTHS.

Beach.—On July 30th, at Darenth Asylum, Dartford, the wife of Fletcher Beach, M.B., F.R.C.P., of a son.

Copner.—On July 21st, at Capstone Lodge, Ilfracombe, the wife of Arthur L. Copner, M.R.C.S., of a son.

Davenport.—On June 5th, at Chung-King, W. China, the wife of C. J. Davenport, F.R.C.S., prematurely, of a son, stillborn.

Horder.—On or about July 28th, at Pak-hoi, S. China, the wife of Dr. E. G. Horder, C.M.S., of a son.

Ormerod.—On July 29th, at Greenhill, Bishop's Waltham, the wife of Joseph Arderne Ormerod, M.D. Oxon., F.R.C.P. Lond., of a son.

Rockliffe.—On Aug. 2nd, at 9, Charlotte-street, Hull, the wife of William Craven Rockliffe, M.A., M.D., of a daughter.

Stone.—On July 25th, at Sandfield, Reigate, the wife of Dr. Stone, of a daughter.

Vacher.—On July 28th, at Glanmor, Birkenhead, the wife of Francis Vacher, late Medical Officer of Health, Birkenhead, of a son.

Weston.—On July 31st, at Groveley House, Handsworth, the wife of S. T. Darby Weston, of a son.

Womack.—On July 30th, at Dennington-park-road, West Hampstead, the wife of Fredk. Womack, M.B., of a son.

MARRIAGES.

Batterham—Campbell.—On July 28th, at All Souls', Clive Vale, Hastings, John Williams Batterham, M.B., F.R.C.S., to Mabel Caroline, only daughter of the late Bruce Campbell, Esq., of the Inner Temple, Barrister-at-law.

Biden—Grummant.—On July 30th, at St. Saviour's, Denmark-park, S.E., George Henry Biden, L.R.C.P. Lond., of Plas-yn-dre, Newtown, Mont., to Kate Sarah, youngest daughter of John Grummant, of Ravens, Champion-hill, S.E.

Booth—Shaw.—On July 28th, at the Parish Church of St. John's, Pinner, Middlesex, by the Rev. Marcus Rainsford, James Mackenzie Booth, M.A., M.D., C.M. Aberd., to Margaret Mackenzie, daughter of the late James Shaw, Esq.

Mackeith—Gadd.—On July 25th, at St. David's Church, Exeter, Alexander Arthur Mackeith, M.B., C.M., of St. Thomas, Exeter, to Alice, eldest daughter of Henry Gadd, J.P., St. David's-hill, Exeter.

Muspratt—Knox.—On Aug. 3rd, at the Church of the Ascension, Balham-hill, Charles Drummond Muspratt, M.D., F.R.C.S., of Bournemouth, to Mabel, daughter of Ralph Henry Knox, C.B., of Trouville-road, Clapham-park.

Moxey—Tyson.—On Aug. 2nd, at Vienna, near Washington, U.S.A., David Anderson Moxey, M.D., M.R.C.P. Lond., to Anna M. Tyson.

Roberts—Parker.—On July 20th, at Enderby Parish Church, Dr. Hugh Leslie Roberts, of Rodney-street, Liverpool, to Kate A. C. Parker, daughter of the late S. Parker, Esq., Royal Engineer Department of Manderville, Gosport.

Thomas—Spence.—On July 27th, at Huntly, N.B., by the Rev. Dr. Semple, W. Thelwall Thomas, F.R.C.S., of 75, Rodney-street, Liverpool, to Anabel Roxburgh, youngest daughter of A. Spence, Esq., Huntly.

Wakelam—Lupton.—On Wednesday, Aug. 3rd, at St. Peter's Church, Ashton-under-Lyne, by the Rev. J. Gouldie French, M.A., assisted by the Rev. J. M. Murrell, B.A., Edgar Wakelam, L.R.C.P. &c., Waterhead, Oldham, late of Willenhall, Wolverhampton, to Emma, youngest daughter of James O. Lupton, Esq., of Richmond House, Ashton-under-Lyne.

DEATHS.

Barrett.—On Aug. 1st, at Merchiston-place, Edinburgh, William Barrett, M.B., Surgeon-Major, late 71st Regiment, aged 76.

Bell.—On July 28th, suddenly, at Preston, William Howard Bell, M.R.C.S., Surgeon-Captain in the Army Medical Staff, aged 31.

Bellew.—On July 26th, at his residence, Farnham Royal, Bucks, Henry Walter Bellew, Surgeon-General, C.S.I., C.I.E., aged 57.

Bennett.—On July 29th, at Longford, Surgeon-Captain William Halloran Bennett, M.B., Army Medical Staff, second son of the late Major-General R. Bennett.

Cumming.—On July 27th, at Benmore Lodge, Mull, William Fullarton Cumming, M.D. (Logie, Morayshire), of Kinellan, Murrayfield, Edinburgh, aged 87.

Forbes-Watson.—On July 29th, at Belvedere-road, Upper Norwood, John Forbes-Watson, M.A., M.D., LL.D., late Reporter on the Products of India to the Secretary of State for India and Director of the India Museum, aged 65.

Lane.—On Aug. 2nd, at St. Mary's, Madeley-road, Ealing, Samuel Armstrong Lane, F.R.C.S., in his 91st year.

Soutter.—On July 28th, at Cumberland-terrace, Finsbury-park, N., Mansfield Collier Soutter, M.R.C.S., A.K.C. Lond., aged 48.

Vasey.—On July 31st, at Cambridge-gardens, North Kensington, Chas. Vasey, L.F.P.S., L.D.S. R.C.S. Eng., Consulting Dental Surgeon of St. George's Hospital, in his 70th year.

In Memoriam.

In loving memory of Edmund Overman Day, M.R.C.S., L.S.A., who was suddenly called to his rest on the 4th August, 1891, interred at Flamstead, Herts, on Aug. 10th, 1891, and reinterred at Norwood Cemetery on the 5th July, 1892.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

THE STUDENTS' NUMBER.

WE beg to call the attention of the Deans of Medical Schools and the Secretaries of Hospitals to the announcement that the Students' Number of THE LANCET for the session 1892-93 will be published on Saturday, Sept. 3rd. We also invite from them and from the members of the profession information regarding hospitals, institutions for medical education &c.—such particulars as are of importance to students generally, both in connexion with the general medical qualifications, the dental qualifications, and the qualifications in public health. This should be sent to the Sub-editor, THE LANCET Office, Strand, not later than the 25th inst.

THE FRENCH HOSPITALS AND THE TAX ON BETTING.

THE only form of betting sanctioned on French racecourses is that of the *pari-mutuel*. This form of betting is organised by agencies duly recognised by the police. The speculator purchases a ticket indicating the horse he has backed. If the horse wins, the money placed on other horses is given over to the winner, with a deduction, however, of 7 per cent. Two per cent. is kept by the agent as his commission for organising the *pari-mutuel* and the remaining 5 per cent. is handed over to the Assistance Publique—that is to say, the Government administration for the relief of the poor. By this means, out of the pleasures (perhaps we should add the follies) of the public, a considerable sum has been obtained for the promotion of useful or charitable works. Recently a sum of £39,160 has been distributed, which was thus derived from the *pari-mutuel*. It may be of interest to mention what institutions profited from this tax on betting. This is the list:—For the Released Prisoners' Help Society and the creation of an asylum, 24,000 fr.; for a *crèche* in the Rue de l'Ouest, 4000 fr.; for the assistance of the poor and the creation of a workshop for the unemployed of the Batignolles district, 15,000 fr.; for female prisoners and children morally abandoned, 40,000 fr.; for a workshop to train apprentices at Tracy (Oise), 10,000 fr.; to help workmen and create a workshop in the Sixth District of Paris, 10,000 fr; to the free fund for the purchase of workmen's tools, 3000 fr.; to the building of a new pavilion for the Maternity of Rueil, 50,000 fr.; and to the Society for the Assistance of the Blind, 400,000 fr. The above are, it will be seen, Parisian institutions. The blind come in for the largest share (£16,000), and a lying-in hospital gets £2000. A much larger share of the money given in the provinces goes to purely medical institutions. For the hospitals of Montbeliard and La Force (Dordogne), 50,000 fr.; for the new hospital at Bagnières de Luchon in the Garonne, 100,000 fr.; for the Hospital of Pour-le-Pin in Isère, 40,000 fr.; for the Rouen Asylum, 12,000 fr.; for the d'Aumale Asylum in the Seine Inférieure, 15,000 fr.; for the Labour Assistance Society of Lyons, 50,000 fr.; for the Nérat Asylum in the Lot et Garonne, 6000 fr.; for the poor of the town of Chaulenay, 15,000 fr.; and for the Maritime Hospital of Pen Bron, Loire Inférieure, 40,000 fr. These gifts, with one or two other items, make a total of 978,500 fr., or nearly £40,000. But there is still more money in hand. There is the question of creating on the shores of the Mediterranean a hospital where the scrofulous children from Paris may enjoy seaside treatment during the winter months. The decision as to what should be given for this purpose has been postponed. Considering the mischief that results from excessive betting on English racecourses many persons will be tempted to inquire whether, as we have frequently suggested, some means could not be devised by which this evil could be turned to the advantage of hospitals and similar institutions.

C. W.—Our correspondent's question is not a medical one and we are unable to reply to it. He had better inquire of the clerk to the authority.

SMALL-POX AND CHICKEN-POX.

To the Editors of THE LANCET.

SIRS,—The cases of small-pox at Saffron Walden bring to my recollection a somewhat similar occurrence when I was practising many years ago in the country. I was sent for late one evening to see the son (aged seventeen) of a farmer, about four miles from my residence. I found him suffering from a well-marked eruption of what I considered to be "chicken-pox." Just as I was leaving the house I accidentally discovered that he had returned from London that day, where he had been a clerk in a large establishment for about three weeks. As small-pox was then very prevalent in London I immediately corrected my diagnosis and on inquiry as to vaccination I found that none of the children—five in number—had ever been vaccinated, as the father had a rooted objection to vaccination. Fortunately I had two tubes of vaccine in my pocket-case and I quickly vaccinated every person in the house. (It may be worth mentioning that to eke out the vaccine I mixed it with a little glycerine.) The wrath of the father on his return home was great, and I was duly threatened with all sorts of legal horrors. The poor boy had a severe attack of confluent small-pox and succumbed on the eighth day. A small panic took place in the village, the house being situated in the very middle of the one street, and it was difficult to get proper help, but I proposed to revaccinate the six bearers engaged to carry the coffin to the church, about a hundred yards from the house. All but one consented and, singular to state, this man contracted the disease in a mild form. The rush of villagers after this to be revaccinated was startling and reminded me of my grandfather's days, when the votaries of venesection waited in a row outside the surgery door for their annual "blood-letting," a custom, by the bye, sadly abused, but one that in some cases might well be employed even in the present day. Exactly a fortnight after the burial of the boy, the father, who had attended the market at the neighbouring town on the previous day, and was noticed then to be in a "queer state," was seized with the complaint in its most malignant form and died from variola hæmorrhagica after forty-eight hours' illness in a comatose state. He was a man of enormous size, weighing over eighteen stone, a free liver and a spirit drinker, and I had literally to roll him from the bed into the coffin, no one save the nurse (who was pitted with small-pox) daring to touch him. It was not a pleasant office. No other case of small-pox occurred. All this happened before the laws of sanitation existed, but I have thought it worth recording.

I am, Sirs, yours faithfully,

B.

London, July 23rd, 1892.

"BIRTH OF A CHILD WEIGHING FOURTEEN POUNDS."

To the Editors of THE LANCET.

SIRS,—A similar case to the one recorded in last week's issue of THE LANCET under the above heading has recently occurred in my own practice. The patient was well known to me and nothing unusual was noticed during pregnancy. She was confined within a few days of the expected date (June 16th), the labour being perfectly normal in every respect. The child (a girl) appeared of excessive size and weight. I did not take any measurements. The weight reached thirteen pounds and a half. The mother and child have progressed excellently. I may add that previous children have been unusually large. Another case, occurring on June 24th, is worthy of remark. The child three days after birth weighed twelve pounds—normal labour and recovery.

I am, Sirs, yours faithfully,

Bexhill-on-Sea, Sussex, July, 1892. RICHARD WATTS WHITE.

MICROSCOPY: SARCINÆ.

To the Editors of THE LANCET.

SIRS,—Would some microscopist give me a few directions how to mount "sarcinæ" as a permanent preparation for the microscope. I have tried mounting them in Canada balsam, but they shrivel up; then a cell was made with dammar varnish and filled with Beale's syrup and glycerine, the sarcinæ mixed and, when the cover-glass was put on, edged round with Holles' glue. Here, again, their contour was broken up. Finding all my efforts fruitless, some were tried in an ordinary glass cell, but again they were all spoiled. It is stated that they can be stained with fuschin, but I cannot succeed with the red. They would be very beautiful if stained. Any suggestion will be a great favour.

I am, Sirs, yours faithfully,

A NOVICE.

July, 1892.

QUARANTINE A CENTURY AGO.

AMONG the terrors of the deep enumerated by Horace in his famous address to the ship which conveyed his friend Virgil to Athens quarantine has no place any more than sea-sickness. We know that the latter was familiar to seafaring antiquity, while the former existed, if at all, only in an occasional and arbitrary guise and was enforced against other visitations than those of disease. But practised as it was down to the most recent date, not only on ships of great tonnage, but on the small coasting craft peculiar to Mediterranean waters, it was found to be vexatious in the last degree. A light fishing smack, for instance, the *San Nicolò*, hailing from Hydra, one of the Cyclades, Zuanne Mechxe, master, on its way from Naples to the Romanian coast, underwent in 1793 a quarantine of four months and ten days' duration off the island of Poveglia in the Adriatic. During that time ten of its crew died of *pestis bubonica*, but its cargo, consisting of nine thousand cheeses, was unloaded immediately and conveyed to the neighbouring Venice without the diffusion in the city of contagion of any kind. The date, 1793, is noteworthy; for not long after, and certainly during the nineteenth century up to its last decade, quarantine was enforced on cargo as well as on crew, to the very serious prejudice of commercial interests. In fact, in the decennium 1875–85 Italian trade was paralysed, and that country is now congratulating herself on the "Ordinanze," whereby, even in presence of cholera, the restrictions on the unloading of cargo are minimised—reduced, in fact, to little more than a medical inspection, followed, if need be, by disinfection. For this happy change the *Opinione* thanks the Sanitary Congress lately held at Venice.

"FRIENDLY MEDICAL AID SOCIETIES."

To the Editors of THE LANCET.

SIRS,—Allow me to contribute a page from the life history of a very dear friend of mine, who, like some of your correspondents, held a somewhat erroneous view as to the incompatibility of holding an appointment under a friendly society and a due regard for the "dignity of the profession." In July, 1882, he passed his finals and left his *alma mater*, having graduated with honours. With a view to getting a good insight into general practice, he engaged as an in-door assistant at £70 a year to one of the largest firms of general practitioners in ——shire. In a few months he was put in charge of a branch practice at a distance of nine miles from town. In two years' time he had worked it up from £150 a year to £350, when it was sold from under him and he was politely discharged. At this time he had some thoughts of applying for an appointment under a friendly society in the adjacent town of ——, but was persuaded that such an engagement would be *infra dig*. In 1885 he obtained an out-door assistancy in the south of England at £140 and an unfurnished house. He married and spent his little savings in furnishing the house, only to hear in six months' time that he must make way for the nephew of his principal, who had recently qualified as L.S.A. Selling up his furniture at a loss of £40, he incurred a further expense of £20 in obtaining and removing to a new situation in ——, at the magnificent salary of £100 out-doors, *plus* half midwifery fees. Refurnishing his little cottage with what remained of his slender capital he enjoyed eighteen months' peace and hard work, only to be then told that his principal was about to retire and to sell his practice. Again breaking up his little home, he, with wife and child, had to seek another situation, and eventually found himself the accepted out of fifty-seven candidates for the position of manager of an East-end practice at the salary of £100 a year, out-doors, *plus* 5 per cent. on all takings. He recently died of acute rheumatism, brought about by exposure to severe weather in the fulfilment of his duty. Who dares to say that the subject of this brief sketch—alas, typical of hundreds of others—would not have acted more wisely in accepting the fair salary offered by the "Friendly Society" than by slaving himself to death in order to enrich the various "principals" whom he served. Sirs, I affirm that so long as qualified assistants are only offered the equivalent wage of a coachman, a third-rate French cook, or a gouty butler, they are perfectly justified in accepting appointments that will at all events ensure them bread and cheese. A young practitioner who has spent his all in obtaining his degrees or diplomas has to choose between perpetual slavery as an assistant (getting possibly 4 or 4½ per cent. on the proceeds of his work) or the tolerably good wage and free hand of a "club doctor."

I am, Sirs, yours obediently,

Aug. 2nd, 1892.

COMMON SENSE.

MUSHROOM "POISONING."

To the Editors of THE LANCET.

SIRS,—Never does a mushroom season come round but one meets with cases of so-called poisoning. The best treatment seems to consist in the exhibition of copious draughts of warm water, which provoke easy vomiting; and, then, what does one see? Almost invariably that the mushrooms have been swallowed in chunks unbitten. These large fatty masses cannot be coaxed through the pylorus and so must return through the œsophagus. And this is a case of "poisoning"! Let those of us who delight in the delicious esculent fungi attend to the detail of well biting before swallowing and we run small risk of being poisoned by mushrooms.—I am, Sirs, your obedient servant,

Melksham, Wilts, July 23rd, 1892.

S. GROSE.

BOYS WITH FIREARMS.

IT is sincerely to be hoped that the magistrates will deal seriously with boys in the possession of firearms. For that matter the possession of firearms by irresponsible adults of all kinds has long become a question of great importance, but in the case of boys the offence is without excuse.

Mr. C. B. Statham (Battersea-park).—The best way would be for our correspondent to apply to the Military Secretary, India Office, for the information. We have occasionally published samples of the questions put at the examination.

MEDICAL ETHICS.

To the Editors of THE LANCET.

SIRS,—Hitherto the medical "gentlemen" practising their profession in the town in which I reside have always borne a high character for their gentlemanly conduct towards their professional brethren; but I am sorry to say it appears that we are now on the eve of losing our previous unblemished reputation, as the following will show. I have been for a long time medical officer to one of the largest railway clubs in —— and have always tried to do my duty to its members when requiring my assistance. Of course, in club practice (as in private) it is not always possible to please every member, and sometimes it is not always policy for every member to consult their club doctor. But when that is the case, and when another practitioner is consulted, surely it is most unprofessional on his part to say, "If any of your members have a wish to change their doctor I will be glad to take his place," "Several members of your club appear anxious to have a change, as they are not satisfied with Dr. ——," and so on. Conduct of that kind is reprehensible, and I hope you will mark your sense of its injustice in the usual manner.

I am, Sirs, yours truly,

Aug. 2nd, 1892.

M.D. &c.

ERRATUM.—In the letter which we published under the heading of "'Cures' for Inebriety" the word "vindicate" in the last line but five of Dr. Keeley's communication ought to be *indicate*.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. Astley, Portobello; Dr. J. G. Adami, Cambridge; Mr. W. S. Andrew, Brixton Hill; Mr. Argo, Warrington; Mr. Anderson, London; Dr. G. Stewart Abram, Exeter; Mr. H. Andrews, Exeter; Mr. Armstrong, Walker-on-Tyne; Mr. Bonner, Suffolk; Mr. Behnke, London; Messrs. Bishop and Sons, London; Mr. Birchall, Liverpool; Messrs. A. P. Bush and Co., Boston; Dr. Brimacombe, Bristol; Mr. C. Beesley, Waltham Abbey; Dr. Bourke, London; Mr. Byrne, Wortham; Messrs. Burgoyne and Co., London; Mr. James Base, London; Dr. James Bays, South Hampstead; Mr. Alfred Browne, Osmotherly; Messrs. Challis and Co., Brighton; Mr. H. H. Collins, London; Mr. W. Watson Cheyne, London; Mr. Chibnall, London; Mr. Cotman, London; Mr. Thomas F. Chavasse, Birmingham; Mr. Bruce Clarke, London; Mr. Edward Cornish, Walthamstow; Mr. Carruthers, India; Mr. Cornish, Manchester; Mr. Davies, Birmingham; Mr. Eddington; Messrs. Eason and Sons, Dublin; Dr. Frank, Germany; Dr. Fitzpatrick, London; Professor Gairdner, Glasgow; Dr. S. Grose, Wilts; Mr. A. Gordon, Dublin; Mrs. Horn, Folkestone; Mr. Hutchinson, London; Dr. A. D. Hughes, Pembroke; Mr. Heywood, Manchester; Messrs. Hopkinson and Co., Nottingham; Messrs. Humphreys, London; Mr. Hunt, Manchester; Mr. F. G. Hallett, London; Mr. Jahncke, London; Dr. L. E. Keeley, London; Mr. Langley, Waterford; Dr. Lambert, British Columbia; Mr. W. Arbuthnot Lane, London; Mr. Loveland, New York; Dr. Mackay, Devizes; Dr. W. V. McVey, Boston; Mr. Jabez Hogg, London; Mr. G. L. Merriman, Weybridge; Messrs. Matthews Bros., London; Dr. B. G. Morison, London; Messrs. Mabbett and Edge, London; Mr. J. H. Morgan, London; Messrs. Mitchell and Co., London; Dr. T. G. H. Nicholson, Liverpool; Messrs. A. Newton and Co., London; Dr. Oswald, Thurloe; Messrs. Oppenheimer and Son, London; Mr. J. B. Pike, Loughborough; Mr. Platt, Hammersmith; Dr. Rae, Southport; Mr. C. Robertson, Alicedale, Cape Colony; Dr. Ridge, Enfield; Mr. R. Reid, Baillieston; Dr. W. Russell, Edinburgh; Mr. T. R. Russell, Liverpool; Messrs. Reynolds and Branson, Leeds; Professor Stuart, Sydney; Messrs. H. Sarson and Sons, London; Mr. D. W. Samways, Southsea; Messrs. Street and Co., London; Dr. Snow, London; Dr. Sturges, London; Dr. Steele, London; Messrs. Sells, London; Mr. Saunders, Manchester; Mr. Statham, Battersea; Messrs. Usher, Bristol; Mr. J. H. Williamson, Manchester; Mr. Welch, Nantwich; Mr. Webb, Bury; Mr. Roger Williams, Preston; Dr. J. R. White, Brentwood; Messrs. Wright and Co., Bristol; Dr. Waring, Northwich; Mr. Wand, Leicester; Dr. Hugh Woods, London; Mr. Williams, Oswestry; Dr. Stanley Yeoman, Morpeth; A. A., London; Associated Press, London; Cantab; Cortland Wagon Co., London; Enquirer, Wilts; Isis, Cheltenham; International News Co., London; Kent and Canterbury Hospital; M.A., London; M.D., Dublin; Nurse, London; National Hospital for the Paralysed, London; Surrey, London; Vera, London; Yorkshire College, Leeds.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Ager, Peterborough; Dr. Alderson, London; Mr. Adkins, Banbury; Miss Blott, London; Mr. Bigg, London; Dr. Bury, Wigan; Messrs. Beaman and Street, Ashton; Dr. Burgess, Cricklewood; Messrs. Blondeau and Co., London; Mr. Brickwell, Watford; Dr. Bobardt, Newbury; Mr. Booth, Pinner; Mr. Browne, Isle of Man; Mr. Bourne, Stourport; Mr. Cochrane, Greenock; Dr. Cressy, Mansfield; Dr. Crook, Margate; Mr. Clowes, Colchester; Mr. Copner, Ilfracombe; Mr. Dixey, Strathpeffer; Mrs. Danks, Wolverhampton; Messrs. Eckersley and Co., Manchester; Miss Edwards, Worthing; Mr. Fitness, Harborne; Mr. Fox, Chesterfield; Mr. Fiske, London; Mr. Grant, Somerset; Dr. Gunnell, Wrexham; Mr. Harman, Taunton; Mr. Hamilton, Harthill; Mr. Hornibrook, London; Dr. Hare, Durham; Mr. Hicks, London; Dr. Holmes, Manchester; Mr. Hunt, Biggleswade; Mr. Halford, sen., London; Messrs. Hooper and Co., London; Mr. Jeffreys-Powell, Brecon; Dr. Kerr, London; Mr. Kerr, York; Messrs. Lloyd and Co., Leicester; Mr. Merry, Hemel Hempstead; Mr. Mainwaring, London; Dr. Michael, London; Mr. McKelvie, Norwich; Miss Manley, Croydon; Mr. Price, Cardiff; Mr. Platt, London; Mr. Rains, Matlock; Mr. Rutter, Cape Town; Messrs. Richards and Co., London; Dr. Rockliffe, Hull; Dr. Slater, Devon; Messrs. Squire and Sons, London; Messrs. Stanley, Rotherham; Messrs. Slinger and Sons, York; Dr. Skardon, Evershot; Dr. Stacey, Leeds; Dr. Smith, Kettering; Mr. Shipley, London; Dr. Spowart, Chesterfield; Dr. Tonge, Kettering; Mr. Tyte, Minchinhampton; Mr. Thomas, Liverpool; Mr. Todd, Selby; Mr. Vacher, Birkenhead; Mr. Van Praagh, London; Miss Vicary, Somerset; Mr. Wood, Hull; Messrs. Walker and Co., Yorkshire; Mr. Wylie, Kingsbridge; Mr. Weston, Handsworth; Mr. Wills, Halton; A., Kirkburton; A. B. C., London; Alpha, London; Beta, London; *Birmingham Daily Post;* Country G.P., London; C. C., London; Chirurgus, London; Mrs. C., London; Class Rooms, Edinburgh; Dalhabity, Aberdeen; Driving, London; Duplex, London; Ellis, London; Erin, Bradford; Erin, London; F.R.C.S., Dublin; Gerald, Cheshire; Graduate, London; Great Eastern Railway, London; Hanover Institute for Nurses, London; Homo, London; Isis, London; L. M. E., London; Maltine Co., London; Medicus, Crewe; Medicus, London; M.B., Leamington; Nemo, Birmingham; Nemo, London; Nucleus, London; O. R., London; Pharmacy, Derby; Querulus, London; R. N. U. P., London; R. T., Clapham; Radcliffe Infirmary; Royal Albert Hospital, Devonport; Ryde Nursing Institution; Student, Birmingham; Solicitor, London; Vaccine Lymph Association, London; Venator, London; Wrexham, London; X. Y., London; Zeno, London; Z. A. P., London.

NEWSPAPERS.—*Birmingham Daily Post, Newcastle Daily Journal, Yorkshire Post, Civil and Military Gazette (Lahore), Leeds Mercury, Liverpool Daily Post, Kingston Express, Freeman's Journal, Glasgow Herald, Argus (Brighton), Birmingham Post, Manchester Courier, Leicester Mercury, Nottingham Guardian, Scottish Leader, Insurance Record, Hertfordshire Mercury, Reading Mercury, Weekly Free Press and Aberdeen Herald, Scotsman, Le Temps (Paris), West Middlesex Standard, Surrey Advertiser, Windsor and Eton Gazette, Local Government Chronicle, City Press, Mining Journal, Western Morning News, Dundee Advertiser, Builder, Vegetarian, West Middlesex Advertiser, Windsor and Eton Express, Record, Donegal Vindicator, Gorcott's Penny Mail (Cape Colony), Oban Times, Donegal Independent, Chichester Observer, Australian Medical Journal (Melbourne), Brighton Guardian, Architect, Australian Medical Gazette (Sydney), Melbourne Age, Malvern Advertiser, Suffolk Chronicle, Hull News, The Welshman, The Child's Guardian, &c.,* have been received.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Aug. 4th, 1892.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
July 29	30·20	E.	57	53	114	72	52	–	Bright
„ 30	30·18	E.	57	54	114	75	54	–	Overcast
„ 31	30·11	W.	63	59	100	77	56	..	Cloudy
Aug. 1	29·93	N.W.	65	61	101	71	60	·13	Cloudy
„ 2	30·16	N.	57	53	100	65	53	·01	Bright
„ 3	30·10	W.	60	56	110	72	56	..	Cloudy
„ 4	30·07	N.W.	61	56	108	65	56	..	Cloudy

Medical Diary for the ensuing Week.

Monday, August 8.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Tuesday, Wednesday, Friday, and Saturday at the same hour.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations daily at 10 A.M.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M. and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.

Tuesday, August 9.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.

Wednesday, August 10.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.

ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations 2.30 P.M.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.

Thursday, August 11.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.

Friday, August 12.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, August 13.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

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THE LANCET.

LONDON: SATURDAY, SEPTEMBER 3, 1892.

ADDRESS TO MEDICAL STUDENTS.

HOWEVER high may be the standard of professional learning and conduct at which those who are about to commence the study of medicine should be exhorted to aim, it must not be forgotten that the primary objects of medical students in the acquisition of knowledge are to pass their examinations at the proper time and to be able to gain their living as honourable and capable practitioners of the healing art. The former is a duty which they owe alike to their friends and to themselves: to their friends especially by reason of the outlay on their education, which presses severely upon those who have experience of the *res angusta domi;* and to themselves because frequent failure often terminates either in their having to earn their livelihood in the undesirable capacity of unqualified assistants or in an inability to earn a livelihood at all. Doubtless the successful attainment of the end in view will depend mainly upon the exertions of the students themselves, but the kind and the degree of success will be determined also by the exercise of forethought on the part of their friends and sound judgment in selecting the most favourable fields for prosecuting the campaign. A preliminary survey of the whole ground to be occupied, a careful and complete study of the regulations of the universities and licensing bodies and of the advantages offered at each stage of the student's career by the various medical schools, coupled with the advice of friends well qualified to judge, should precede the first stage of the student's career. At the present day, when the possession of a university degree is regarded as a highly desirable acquisition for the medical practitioner, this forethought and prevision are all-important for students whose medical education is to be obtained in the metropolis. We have known men, who would have greatly distinguished themselves at the severe examinations of the University of London and who might have occupied leading positions, to be debarred from rising to their proper place in the profession because their knowledge of examining bodies and examinations was acquired when circumstances rendered it too late to remedy the omission. A young man who is just leaving a good school ought not to find it a difficult task to pass the Matriculation Examination at the University of London, and this course, under present circumstances, cannot be too strongly urged upon those who are intending to complete their whole curriculum in a London school. Before the extension of the period of professional study from four to five years, the most advantageous course was to pass both the Matriculation and the Preliminary Scientific Examinations of the University before entrance at the medical school; for it was found that preparation for the latter clashed with the ordinary professional curriculum, and failure at this examination—the *pons asinorum* of the ambitious student—resulted in an absolute loss of the time which had been devoted to the work. The addition of the extra year of study which has become obligatory on every medical student who commenced his medical studies after Jan. 1st, 1892, tends to harmonise the curriculum for the diplomas of the corporations with the curriculum for the University of London, and ought to facilitate the acquisition of medical and surgical degrees at that University. The first year of the five years may be passed at a university or teaching institution recognised by any of the licensing bodies where the subjects of physics, chemistry and biology are taught. It would be too sanguine to anticipate that these regulations will altogether meet the demand for increased facility of medical graduation in London, but it must assist in lessening the disabilities of the London students and remove one of the stumbling blocks which have been lying in their path. The question of a proposed Teaching University in London is fully dealt with in another part of our present issue.

We may avail ourselves of this opportunity to point out that some of the prospectuses of the medical schools contain all the information which the intending student requires in regard to examinations, diplomas, and degrees, coupled with very useful advice as to the order and methods of medical study. Application may therefore be made to every medical school for a prospectus. Moreover, at almost every school there is someone—be he dean or warden—who may be consulted, who is ready to smooth the path of the student, to make the crooked ways straight and the rough places plain. Within the space at our disposal it is impossible to touch upon the many subjects of interest which are suggested by the entrance of many hundreds of students on Oct. 1st upon the business and work of a lifetime, or to offer all the counsel which so grave and important an occasion demands. A few points only in connexion with the duty of preparation for examinations and for practice can here be noticed.

As lectures are indispensable, owing to the regulations of the licensing bodies, the student should attend them heartily and in earnest, supplementing the lecture of the day with the perusal of his notes and the subject of the lecture in his text-book. The mastery of one good text-book is better than desultory consultation of many authorities; but on disputed points and matters on which recent research has thrown new light the text-book may not contain all that is required. Some of the deficiencies may be made good by reference to current medical literature, by studying the reports of the medical societies, and by conversation with medical tutors, registrars, or members of the staff, or the lecturers themselves. It is a great art to obtain information by judicious questions, although the Socratic method cannot always be adopted without earning for the student the character and penalties of a bore.

Reading should be supplemented with the book of nature, some pages of which will be open in every well-stocked museum, and if the museum of the medical school does not suffice, the museum of the Royal College of Surgeons presents ever-increasing facilities for objective study.

Regular work should be undertaken daily. The practice of LINNÆUS in regard to his *magnum opus*—*nulla dies sine linea*—furnishes a good example of the efficacy of a little labour regularly performed. It is continual dropping that wears away the stone—*gutta cavat lapidem non vi sed sæpe cadendo.* Of all the qualities which contribute to command success self-reliance is one of the most important. The most successful men have been the most self-reliant. The maxim of Horace not to pin's one faith on anyone—*nullius jurare in verba magistri*—is a branch of the self-reliant spirit. There is often on a medical or surgical staff some brilliant man—a favourite and successful because a dogmatic teacher, a man distinguished as a clinician or an operator, prone to enunciate theories and fond of philosophising—who gains the ear of the students. For a time, perhaps, every word is received as gospel and all his maxims and methods of practice are regarded as the source of all professional wisdom—the only true maxims and only right methods. The student knows not that there may be many equally good ways of arriving at the same result, and it is only time or some error on the part of the idol which cannot be concealed that occasions his disenchantment. To avoid these snares the student should listen to more than one oracle and witness a variety of practice. Let him learn the views of different physicians and different surgeons, and be in constant attendance both among in-patients and out-patients. Let him prove all things and hold fast that which is good. And with regard to practice, that which is equally necessary for success at examinations and in future practice is for students to perform for themselves all the minutiæ of work at the bedside, all the steps of operations, each detail in minor surgery. These things must be done until the habit of doing them well comes mechanically. There is a great gap between a most perfect knowledge of every step in an operation and the power of doing them smoothly, successfully and without effort. Constant practice abolishes effort. To have to stop and think at each step of a surgical procedure is always necessary for anyone who has not enjoyed a sufficiency of practice. Equally for rapid and successful diagnosis constant and abundant practice can alone be of avail, and the rapid and successful diagnosis then begins to wear the aspect of inspiration and intuition. Another reason for the student's perfecting himself in all minor details of medical and surgical practice is this, that it will be the minor cases of which his private practice will be the most largely composed and which will be the foundation of his repute and fortune. Minor surgery will be far more useful to the general practitioner than the major operations. There will be many cases of nævi; many cases will require catheterism; the arrest of epistaxis will be urgent; many hydroceles may require tapping; but how few limbs will require amputation and how few arteries will have to be tied in their continuity. Not that the student should neglect his opportunities of witnessing and doing these great things; by all means let students flock to the theatre for an amputation at the hip or an entire upper limb, but let them never lose a chance of doing for themselves the minor details on which their daily bread may depend. In all practice it must be recollected that our primary duty is to save life or to prolong it. To save life we must be able to act in emergencies with promptitude and decision. Every practitioner should be able to arrest hæmorrhage in any part of the body, on an emergency to operate for hernia or intestinal obstruction, and to open the trachea or larynx—it may be with a penknife—to overcome a stoppage to respiration. In these respects—and fortunately in others—the interest and advantage of patients and practitioners will go hand in hand, although the gratitude of patients is not, we regret to add, invariably proportionate to the amount of good which the practitioner has done.

We must now for a time take leave of those who are crossing the threshold of professional work. All of them are looking forward to what the future may bring. To some may come fame, to some success, to some perhaps only a mere hardly earned livelihood, to some, alas, perhaps nothing but disappointment and failure—still to all we would say, "Do your best."

> "Who does the best his circumstance allows
> Does well, acts nobly: angels could no more."

◆

THE PROPOSED NEW TEACHING UNIVERSITY IN LONDON.

In our Students' number of 1891 we expressed a hope that before another year had elapsed a Teaching University for London would have been established and that London medical students would have been placed in such a position through its formation that they would be able to obtain degrees on the same fair and equitable terms as are now granted in the other great centres of medical education in Great Britain. We regret to say that we have been disappointed in this expectation, and London students must still go through the ordeal of an honours' examination although they only wish to obtain an ordinary pass degree. The first Royal Commission definitely laid down in its report that this was the practical outcome of the present high standard insisted on by the University of London, and suggested a scheme for the removal of such an anomaly. During the summer session of 1891 the Lords of the Privy Council actively concerned themselves with the question of providing a real University, and not a mere Imperial examining board, in London, in consequence of the failure of the University of London to adapt itself to the new position which the Royal Commission recommended and to make the necessary changes in its constitution and working. As the outcome of their deliberations a Draft Charter for a new University, to be called the Albert University, which should include King's and University Colleges, and the London Medical Schools, with power to admit other institutions of a similar standing, and this was sanctioned both by their lordships and by the law officers of the Crown. In order to become valid this Charter had to be laid on the table of both Houses of Parliament for thirty days, and on their reassembling in February last this step was complied with, permission in the meanwhile having been granted for a change of name from "Albert" to "Gresham." But during the Parliamentary recess a very formidable opposition had arisen to the scheme approved by the Lords of the Privy Council. The authorities of the Victoria University and of the provincial Schools of Medicine had not opposed the petition of King's and University Colleges to be constituted into a University for London, but they immediately changed their attitude and became actively hostile when the other medical schools in London were included and so took every means to prevent the Charter being passed through the House of Commons For diverse reasons many of the Senate and a large number of the members of Convocation of the University of London, the authorities of Bedford College and other institutions, such as the Working Men's College and the Birkbeck Institution, joined in the opposition, and to these were added the objections of many interested in higher education in London—i.e., the University Extension Society and some of the professors in Arts and Science in University College. Those who were interested in University Extension demanded a democratic University, whilst the professors asked for one which should be under their own control, and by which all other teaching institutions of the higher grade in London should be absorbed; and, notwithstanding discordant views, all these elements were joined together in opposition. A deputation representing these various bodies waited on Lord SALISBURY on March 3rd, and although he pointed out that their objections were being made at a very late stage, and that they should have been placed before the Privy Council at the hearing of the application for the Charter, it was clear that the Government would have to give way to the Parliamentary opposition. Time did not permit the supporters of the Charter to reply publicly and effectively to the attacks made by the objectors, although many of the statements put forward in the name of the provincial medical schools were unwarranted. On March 9th Mr. BALFOUR announced that the Government had decided to remit the Draft Charter for reconsideration, and on April 25th another Royal Commission was nominated. The effect of the past agitation in favour of a Teaching University which should have power to confer degrees on London students on equitable terms will be best seen on comparing the terms of the reference to the two Royal Commissions. The first Commission in 1888 was appointed to inquire "whether any and what kind of new University or powers is or are required for the advancement of higher education in London"; whilst the new Commission is authorised "to consider, and if they think fit, alter and amend, and extend the proposed Charter remitted in compliance with an address of the House of Commons, so as to form and report to us a scheme for the establishment under Charter of an efficient Teaching University for London." The advance in the latter reference is obvious: the first *Commission was to report as to the necessity* for a Teaching University for London; the present Commission is to alter, if necessary, the provisions of a Draft Charter and to recommend a scheme for establishing the University. This is at least something gained. No one denies the necessity for such a University, the difficulties are in the devising of a proper and efficient plan for its formation and growth, and the new Commission is to alter the Gresham Charter so as to make it a fit basis for the establishment of a real working University for London. The second Commission includes no member who served on the former one, and is constituted on an altogether different plan. Instead of consisting of uninterested persons eminent in the knowledge of law and of long experience in University education, as was the case in the Commission of 1888, that of 1892 is mainly composed of representatives of nearly all the bodies who have taken part in the movement, and it is to be hoped that they will be able to come to some agreement, and that an efficient and practical scheme will be forthcoming. The members are Earl COWPER, the chairman, who has no special interest in the question; Lord REAY, intimately connected with University College, and the first chairman of the Association for Promoting a Teaching University; Bishop BARRY, a member of the Council of King's College, and formerly its Principal; Lord PLAYFAIR; Vice-Chancellor RENDALL of the Victoria University; Professor RAMSAY of Glasgow; Professor SIDGWICK of Cambridge; Canon BROWNE, a most ardent supporter of the University Extension system; Mr. JAMES ANSTIE, a member of the Senate of the University of London, who has had a considerable part in drawing up many of the schemes for reforming that University; Mr. R. C. PALMER, a most influential member of the Gresham Committee and of the Mercers' Company; whilst Sir W. S. SAVORY, Sir G. M. HUMPHRY and Professor BURDON-SANDERSON are the representatives of the medical profession, but they may be considered as representing respectively the Royal Colleges and the medical schools of Cambridge and Oxford rather than the medical profession in its wider aspects.

There are two very important omissions in the *personnel* of the Commission; for the teachers, who are not specially connected with either the Royal Colleges or the Universities, and to whom the present forward position of the question is largely due, are not represented, nor is there included any general medical practitioner (and there would have been no difficulty in finding a suitable representative) who has been taught in one of our London medical schools, and who would therefore have been practically conversant with the advantages and disadvantages of the London system of education and qualification whilst free from any official bias.

The sittings of the Commissioners began on May 21st, and on the 28th they heard the first witnesses. It was decided that, so far as might be convenient, those who opposed the Gresham Charter should first be heard. The sittings are held in private. A large number of witnesses have given evidence, which was until very recently devoted mainly to the general educational questions that required solution in the event of the formation of such a University in London. It was not until the middle of July that the medical difficulty came to the front, and this was soon found to be the really crucial part of the investigation. The real point to be determined is the formation of a Teaching University in London, which among its other objects should include in its constitution a medical faculty strong enough to secure for its students degrees on a fair standard of literary, scientific, and professional knowledge, with a firm insistence on proofs of due attendance on the theoretical teaching and an efficient service in the practical work laid down in the medical curriculum. Other questions—such as the amalgamation of schools for more efficient scientific teaching, the appointment of special professors of University standing for higher teaching or for research, the existence of one or two Universities in London, the position of the Royal Colleges in connexion with the University—although of great importance, are quite subsidiary to the main question. The acknowledged injustice in the present position of the London student must be removed, and any scheme, however comprehensive in its other educational details and suggestions, which does not make this a prominent feature must fail. There would seem to be only two possible solutions of the difficulty. The first is to make a new attempt at remodelling the existing University, so as to practically secure the advantages of a local Teaching University with degree-granting powers on the one side and the existence of an open and Imperial Examining Board, also conferring degrees, on the other. We have heard a rumour that many members of the Royal Commission are in favour of some such plan. It must be remembered, however, that the former Commission suggested a similar solution, and put forward a detailed scheme for its effective working, but after two years had been spent in conferences and negotiations the University of London found itself unable to so transform its constitution as to assume the new position and carry out the new duties recommended by that Commission. It has been suggested that if a similar scheme be recommended by the present Commission any anticipated opposition in Convocation will be rendered nugatory by making an application direct to Parliament without consulting the members of Convocation. Such a high-handed method of procedure may be contemplated, but we do not believe that the Senate as a body will give its sanction to such a course of proceeding, and we are by no means sure that even if adopted it would necessarily be successful. The other method of meeting the difficutly is to form a second University in London with exclusively local functions, and to *allow the existing University to remain free and unfettered* for the performance of its present Imperial work. The existence of Trinity College, Dublin, having power to confer degrees on its own students, and of the Royal University of Ireland with its headquarters in Dublin, show how easily two Universities, with different objects and functions, can exist side by side in the same city.

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THE STUDENT'S LIBRARY.

The number of works on medical subjects which are available to the English student has become so large, and their general quality is so excellent, that it is a matter of increasing difficulty to make any attempt to indicate the most serviceable text-book in any branch. For some years past we have endeavoured to make such a guide by taking the leading examinations as the basis of our comments, and pointing out some of the chief text-books that may be read in preparation for these examinations. But for the reason above stated this mode of dealing with the matter has the objection of making a somewhat invidious selection, and in what follows we propose merely to arrange in systematic fashion most of the publications now in vogue, under each subject of the curriculum, placing first the larger and more compendious treatises, and indicating by an asterisk those books which have perhaps the greatest favour among students at large.

Anatomy.

Quain.—Elements of Anatomy, edited by Schäfer and Thane (Longmans, Green and Co.).

Macalister.—Human Anatomy, Systematic and Topographical (Charles Griffin and Co.).

**Gray.*—Anatomy, Descriptive and Surgical, edited by Pick (Longmans, Green and Co.).

**Ellis.*—Demonstrations of Anatomy, edited by Thane (Smith, Elder and Co.).

**Heath.*—Practical Anatomy, edited by Godlee (J. & A. Churchill).

Holden.—Manual of Dissections, edited by Langton (J. & A. Churchill).

Cleland.—Directory for Dissection (Smith, Elder and Co.).

Clarke and Lockwood.—The Dissector's Manual (Cassell and Co.).

Cunningham.—Dissector's.Guide (J. Thin).

**Cooke.*—Tablets of Anatomy (Longmans, Green and Co.)

Treves.—Surgical Applied Anatomy (Cassell and Co.).

Bellamy.—Guide to Surgical Anatomy (J. & A. Churchill).

**Holden.*—Landmarks, Medical and Surgical (J. & A. Churchill).

Osteology.

**Ward.*—Outlines of Osteology (Henry Renshaw).

**Thane.*—See Quain's Anatomy, vol. ii., part 1.

**Holden.*—Human Osteology, edited by Stewart (J. & A. Churchill).

Norton.—Osteology for Students (Baillière, Tindall and Cox).

**Ellis and Ford.*—Illustrations of Dissections (Smith, Elder and Co.).

Braune.—Atlas of Topographical Anatomy (J. & A. Churchill).

**Godlee.*—Atlas of Human Anatomy (J. & A. Churchill).

Masse.—Text-book and Atlas of Anatomy (Baillière, Tindall and Cox).

Witkowski.—Movable Atlas of Anatomy (Baillière, Tindal and Cox).

Physiology.

Landois.—Text-book of Physiology, translated and edited by Stirling (Charles Griffin and Co.).

**Foster, M.*—Text-book of Physiology (Macmillan and Co.).

Carpenter.—Principles of Physiology, edited by Power (J. & A. Churchill).

McKendrick.—Outlines of Physiology (Maclehose and Sons).

Flint.—Text-book of Human Physiology (H. K. Lewis).

Hermann.—Elements of Human Physiology, translated by Gamgee (Smith, Elder and Co.).

**Kirkes.*—Handbook of Physiology, edited by M. Baker (John Murray).

Yeo, G.—Manual of Physiology (J. & A. Churchill).

Power.—Human Physiology (Cassell and Co.).

**Huxley.*—Elementary Physiology (Macmillan and Co.).

Practical Physiology and Physiological Chemistry.

Gamgee.—Physiological Chemistry (Macmillan and Co.).

Halliburton.—Text-book of Chemical Physiology and Pathology (Longmans, Green and Co.).

Charles.—Elements of Physiological and Pathological Chemistry (Smith, Elder and Co.).

**Harris and Power.*—Physiological Laboratory (Baillière Tindall and Cox).

Histology and Embryology.

**Schäfer.*—Quain's Anatomy, vol. i., parts 1 and 2.

Klein.—Atlas of Histology (Smith, Elder and Co.).

Stirling.—Text-book of Practical Histology (Smith, Elder and Co.).

**Schäfer.*—Course of Practical Histology (Smith, Elder and Co.).

**Klein.*—Elements of Histology (Cassell and Co.).

Colman.—Section Cutting and Staining (H. K. Lewis).

Materia Medica.

Brunton.—Text-book of Pharmacology, Therapeutics, and Materia Medica (Macmillan and Co.).

Phillips.—Materia Medica and Therapeutics (J. & A. Churchill).

**Garrod.*—Essentials of Materia Medica and Therapeutics, edited by Tirard (Longmans, Green and Co.).

*_Whitla._—Pharmacy, Materia Medica and Therapeutics Henry Renshaw).

*_Mitchell Bruce._—Materia Medica and Therapeutics Cassell and Co.).

*_Roberts._—Official Materia Medica (H. K. Lewis).

Hale White.—Materia Medica, Pharmacology and Therapeutics (Macmillan and Co.).

Thorowgood.—Guide to Materia Medica and Therapeutics J. & A. Churchill).

Griffiths.—Materia Medica and Pharmacy (Baillière, indall and Cox).

Scoresby Jackson.—Note-book of Materia Medica (J. Thin).

Therapeutics.

Brunton.—Text-book of Pharmacology, and Therapeutics Macmillan and Co.).

Wood.—Therapeutics (Smith, Elder and Co.).

Bartholow.—Materia Medica and Therapeutics (H. K. Lewis).

Hare.—Practical Therapeutics (Young J. Pentland).

*_Ringer._—Handbook of Therapeutics (H. K. Lewis).

*_Farquharson._—Guide to Therapeutics (Smith, Elder & Co.).

Hale White.—Text-book of General Therapeutics (Macmillan and Co.).

Whitla.—Dictionary of Treatment (Henry Renshaw).

Fenwick.—Outlines of Medical Treatment (J. & A. Churchill).

Forensic Medicine.

Tayler.—Manual of Medical Jurisprudence, edited by Stevenson (J. & A. Churchill).

*_Guy and Ferrier._—Principles of Forensic Medicine (Henry Renshaw).

*_Husband._—Handbook of Forensic Medicine (Baillière, Tindall and Cox).

Abercrombie.—Guide to Medical Jurisprudence (J. & A. Churchill).

Hygiene.

Parkes and De Chaumont.—Manual of Practical Hygiene, edited by Notter (J. & A. Churchill).

*_Wilson._—Text-book of Hygiene (J. & A. Churchill).

*_Parkes, L._—Manual of Public Health (H. K. Lewis).

*_Whitelegge._—Hygiene and Public Health (Cassell and Co.).

Pathology and Morbid Anatomy.

Hamilton.—Text-book of Pathology (Macmillan and Co.).

*_Ziegler._—Text-book of Pathological Anatomy, translated by Macalister (Macmillan and Co.).

*_Coats._—Manual of Pathology (Longmans, Green and Co.).

Wilks and Moxon.—Lectures on Pathological Anatomy (Longmans, Green and Co.).

Cornil and Ranvier.—Manual of Pathological Histology (Smith, Elder and Co.).

*_Boyce._—Morbid Histology (H. K. Lewis).

*_Woodhead._—Practical Pathology (Young J. Pentland).

*_Payne._—Manual of General Pathology (Smith, Elder & Co.).

*_Green._—Introduction to Pathology, edited by Boyd (Henry Renshaw).

Moore.—Pathological Anatomy of Diseases (J. & A, Churchill).

Stevens.—Practical Pathology (Maclehose and Sons).

*_Whitaker._—Notes on Pathology (Livingstone).

Billroth.—Surgical Pathology and Therapeutics (H K. Lewis).

Paget.—Lectures on Surgical Pathology (Longmans, Green and Co).

*_Walsham._—Handbook of Surgical Pathology (Baillière, Tindall and Cox).

*_Bowlby._—Surgical Pathology (J. & A. Churchill).

*_Pepper._—Surgical Pathology (Cassell and Co.).

Sutton, H. G.—Medical Pathology (Baillière, Tindall and Cox).

Sutton, J. B.—Introduction to General Pathology (J. & A. Churchill).

Medicine.

Reynolds.—System of Medicine (Macmillan and Co.).

*_Fagge and Pye-Smith._—Principles and Practice of Medicine (J. & A. Churchill).

Niemeyer.—Text-book of Practical Medicine (H. K. Lewis).

Flint.—Principles and Practice of Medicine (J. & A. Churchill).

*_Bristowe._—Theory and Practice of Medicine (Smith, Elder and Co.).

*_Osler._—Principles and Practice of Medicine (Young J. Pentland).

Strumpell.—Text-book of Medicine (H. K. Lewis).

*_Roberts._—Handbook of the Theory and Practice of Medicine (H. K. Lewis).

*_Tayler, F._—Manual of Practice of Medicine (J. & A. Churchill).

*_Carter._—Elements of Practical Medicine (H. K. Lewis).

*_Charteris._—Guide to Practice of Medicine (J. & A. Churchill).

Husband.—Handbook of Practice of Medicine (Baillière, Tindall and Cox).

Quain.—_Dictionary of Medicine_ (Longmans, Green and Co.).

*_Fowler._—Dictionary of Practical Medicine (J. & A. Churchill).

Turner.—Index of Diseases (Henry Renshaw).

Da Costa.—Medical Diagnosis (Smith, Elder and Co.).

*_Finlayson._—Clinical Manual (Smith, Elder and Co.).

Vierordt.—Manual of Medical Diagnosis (Young J. Pentland).

Graham Brown.—Medical Diagnosis (Bell and Bradfute).

*_Fenwick._—Guide to Medical Diagnosis (J. & A. Churchill).

*_Gibson and Russell._—Physical Diagnosis (Young J. Pentland).

Seifert and Müller.—Clinical Diagnosis (Young J. Pentland).

*_Gee._—Auscultation and Percussion (Smith, Elder and Co.).

Harris.—Guide to Diseases of the Chest (J. & A. Churchill).

West, S.—How to Examine the Chest (J. & A. Churchill).

*_Ewart._—Cardiac Outlines (Baillière, Tindall and Cox).

*_Ewart._—The Pulse, and How to Feel It (Baillière, Tindall and Cox).

Warner.—Guide to Case-taking (J. & A. Churchill).

V. Jaksch.—Clinical Diagnosis (Charles Griffin and Co.).

Wynter and Wethered.—Clinical and Practical Pathology (J. & A. Churchill).

*_Whittaker._—Primer on the Urine (J. & A. Churchill).

Legg.—Guide to Examination of Urine (H. K. Lewis).

Tyson.—Guide to Examination of Urine (Baillière, Tindall and Cox).

*_Coupland._—Notes on Examination of Sputa, Urine &c. (H. K. Lewis).

SURGERY.

Holmes and Hulke.—System of Surgery (Longmans, Green and Co.).

Heath.—Dictionary of Practical Surgery (Smith, Elder and Co.).

**Smithson.*—Science and Art of Surgery, edited by Beck (Longmans, Green and Co.).

**Mansell-Moullin.*—Surgery (J. & A. Churchill).

Gant.—Science and Practice of Surgery (Baillière, Tindall and Cox).

**Holmes.*—Treatise on Surgery (Smith, Elder and Co.).

**Bryant.*—Manual of Practice of Surgery (J. & A. Churchill).

Treves.—Manual of Surgery (Cassell and Co.).

Druitt.—Surgeon's Vade-Mecum, edited by Boyd (J. & A. Churchill and Henry Renshaw).

Keetley.—Index of Surgery (Smith, Elder and Co.).

Walsham.—Guide to Surgery (J. & A. Churchill).

Treves.—Operative Surgery (Cassell and Co.).

**Heath.*—Atlas of Surgical Operations (J. & A. Churchill).

Barker.—Surgical Operations (Longmans, Green and Co.).

Stimson.—Manual of Operative Surgery (H. K. Lewis).

Heath.—Guide to Surgical Diagnosis (J. & A. Churchill).

**Gould.*—Surgical Diagnosis (Cassell and Co).

**Heath.*—Minor Surgery and Bandaging (J. & A. Churchill).

**Hill, B.*—Essentials of Bandaging (H. K. Lewis).

MIDWIFERY.

**Playfair.*—Science and Practice of Midwifery (Smith, Elder and Co.).

Lusk.—Science and Art of Midwifery (H. K. Lewis).

Barnes.—Obstetric Operations (J. & A. Churchill).

**Leishman.*—System of Midwifery (Maclehose and Sons).

**Galabin.*—Manual of Midwifery (Henry Renshaw).

Meadows.—Manual of Midwifery (Henry Renshaw).

GYNÆCOLOGY.

Barnes.—Medical and Surgical History of Diseases of Women (J. & A. Churchill).

**Hart and Barbour.*—Manual of Gynæcology (W. T. A. K. Johnston).

Atthill.—Lectures on Diseases of Women (Longmans, Green and Co.).

Edis.—Diseases of Women (Smith, Elder and Co.).

Jones, M.—Manual of Diseases of Women (Baillière, Tindall and Cox).

**Galabin.*—Guide to Diseases of Women (J. & A. Churchill).

**Lewers.*—Text-book of Diseases of Women (H. K. Lewis).

DISEASES OF CHILDREN.

Eustace Smith.—Disease in Children (J. & A. Churchill).

**Ashby and Wright.*—Diseases of Children (Longmans, Green and Co.).

**Goodhart.*—Manual of Diseases of Children (J. & A. Churchill).

Money.—Treatment of Diseases of Children (H. K. Lewis).

THE VALUE OF DEBATING SOCIETIES.

EARLY in his curriculum the medical student should join the debating society attached to his school, and this for many reasons. It brings him into contact, not merely social but intellectual, with the more advanced of his fellows, and it stimulates him by honourable emulation to earn their approval and esteem. It may be that for the first year or so he takes no prominent part in the discussions. The subject-matter of debate may be "over his head," or he may be shy as to addressing an audience, or a capacity of readily expressing himself may as yet have had no opportunity of development. For the time, therefore, he will be well employed in listening and looking on, till he feels sure of his ground and can intervene effectually in the proceedings. But when this latter stage is reached he will be spurred to greater efforts by the mental fascination inseparable from all high-toned discussion; he will find his intellect clearing itself in the endeavour to make his argument intelligible and convincing; and he will gradually refine and enrich his language in giving expression to subtler and ampler ideas. All this is a great moral and intellectual gain, which can react for nothing but good on his subsequent career—a gain perceptible subjectively as regards self-reliance, respect for the opinions of others and courtesy towards opponents, and objectively as regards the friendships it helps to form, the goodwill and even admiration it may bring him and the social vantage-ground on which it will serve to place him. So rich, indeed, are debating societies in these results for their members that no school—certainly no medical school—should be without one, while their opportunities should be freely utilised wherever such an adjunct to academic culture exists.

A very interesting book has lately appeared which gives point to the above remarks. It is a handsome volume published by Mr. DAVID DOUGLAS of Edinburgh, entitled "Dissertations by Eminent Members of the Royal Medical Society." Its editor is Sir DOUGLAS MACLAGAN, and its contents throw light on the first beginnings of the career of men afterwards distinguished in every walk of the profession. For more than a century and a half the Royal Medical Society of Edinburgh has enrolled in its membership the flower of the northern alumni, and a brief statement of its constitution and mode of working cannot but be useful for comparison or imitation. It is open to the first year's student and to the graduate, and after proposal and ballot the candidate takes his seat as an ordinary member. He is bound to attend the meetings, and is fined for absence so long as he resides in Edinburgh. After a time, varying according to the number of those who have preceded him in election, he is called upon to read to the Society an essay on some subject connected with the healing art or some of the ancillary sciences, and this is called his dissertation. The essay is criticised by the members, and, as Sir DOUGLAS MACLAGAN says, "has on many occasions given rise to debates which have had an important effect in extending the knowledge and influencing the future opinions and practice of those who have had the benefit of hearing or taking part in them. The member," adds Sir DOUGLAS MACLAGAN, "who has read the dissertation, and almost of necessity taken part in the discussion thereof, is entitled to become an extraordinary member and is now freed from compulsory attendance and fines."

A glance at the list of even those under whose names no dissertations are to be found may give some notion of the distinction of the Society. Such names include WILLIAM CULLEN, JOSEPH BLACK, HALLER, the MONROS, OLIVER GOLDSMITH, MARK AKENSIDE, MUNGO PARK, Sir CHARLES HASTINGS, THOMAS ADDISON, and CHARLES

DARWIN. On the other hand, the authors of the dissertations that compose the present volume would of themselves have given *éclat* to any society of the kind. They are DANIEL RUTHERFORD, JAMES GREGORY, GILBERT BLANE, ROBERT JAMESON, HENRY HOLLAND, RICHARD BRIGHT, MARSHALL HALL, ROBERT LISTON, JAMES SYME, ROBERT CHRISTISON, WILLIAM SHARPEY, ALLEN THOMSON, JAMES YOUNG SIMPSON, JOHN REID, MARTIN BARRY, WILLIAM BENJAMIN CARPENTER, JOHN BROWN, JOHN GOODSIR, CHARLES MURCHISON and JAMES MATTHEWS DUNCAN. The first essays of these men, as now given to the world, "form," as Sir DOUGLAS MACLAGAN says, "important additions to the history of medicine—a study too much neglected." More than this, they give conclusive evidence of the disciplinary and educative value of medical debating societies at that stage of the student's career when his mental faculties are in a state most favourable for the reception of impressions which may modify his whole future character and individuality.

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BRITISH QUALIFICATIONS ABROAD.

As a very considerable number of medical men for one reason or another decide to leave these islands and to settle in practice in some other country, and as the conditions under which men holding British qualifications are permitted to practise differ widely in different countries, it will be useful to give in the present issue of THE LANCET an epitome of such information as we have been able to obtain concerning the regulations in force in various countries. It will be remarked that in British colonies generally little difficulty need be anticipated beyond having to furnish proof of the possession of a *bonâ-fide* diploma entitling the holder to registration in Great Britain and perhaps the payment of a fee. To this rule there are, however, as will be seen, exceptions—viz., British Columbia and Ontario, where an examination is necessary. It must be remembered, however, that these regulations are constantly changing, and generally in the direction of increased stringency, so that any practitioner thinking of settling abroad would be well advised to write direct to the authorities of the country or State to which he proposes to go for the latest information. It is well, too, to get diplomas and certificates of registration endorsed by the consul in England before sailing. This will sometimes obviate difficulties as to identification.

BRITISH COLONIES.

Antigua.—No formality is required.

Australia.—In all the Australian colonies the Medical Board must be first communicated with and the diplomas produced. It is generally necessary also to produce some evidence that the applicant for registration is really the person referred to in the diplomas, and the Board may take means of satisfying itself on this point. There is in some of the colonies a fee of £1 1*s.* to pay. In Western Australia the Board may examine and register an unqualified man.

Barbadoes.—Application has to be made to the Medical Assessors. Fee 5*s.*

Bermuda.—The Governor in Council gives permission to practise on the production of diplomas. There is no fee.

British Columbia.—Diplomas have to be produced to the Medical Council, Victoria, with satisfactory proof of identification, and an examination must then be passed in: (1) Anatomy, (2) Chemistry, (3) Physiology, (4) Pathology, (5) Materia Medica, (6) Medical Jurisprudence, (7) Theory and Practice of Medicine, (8) Clinical Medicine, (9) Surgery, (10) Clinical Surgery, (11) Obstetrics and Diseases of Women and Children. Candidates must obtain 75 per cent. of the marks in each of the last three subjects. A fee of $100 is required before the examination, half of which is returned in case of failure. Examinations are held in January, May and September.

British Guiana.—Application has to be made to the Secretary of the Medical Board. Qualifications which have not been registered in Great Britain may be recognised.

British Honduras.—No formality is required.

Cape of Good Hope.—The Colonial Medical Committee examines the diplomas of applicants. The Colonial Secretary will then grant a licence to practise. There is no fee.

Ceylon.—Practice is free.

Dominica.—No formality is required.

Gibraltar.—Diplomas must be produced to the Governor. There is no fee.

Grenada.—Application has to be made to the Clerk of the Colonial Secretary. There is then a delay of a fortnight. The fee is £1.

Hong-Kong.—The Medical Board examines the qualifications of applicants. A declaration has to be made before a magistrate. The fee is $5.

India.—Practice is free.

Jamaica.—The Registrar-General acts as Medical Registrar. A declaration has to be made before a Justice of the Peace, and the diplomas are initialled by him. The fee is £1. Unqualified persons can be examined by the Medical Council. Fee £11 11*s.*

Malta.—A fee is necessary.

Manitoba.—Application should be made to the Registrar of the College of Physicians and Surgeons. The fee is about $5.

Mauritius.—No fees are required.

Natal.—There is a Medical Board, to which body application must be made and a copy of a declaration before a magistrate produced. The fee is £1 15*s.*

New Brunswick.—The Council of Physicians and Surgeons are applied to and the diplomas and certificate of registration in Great Britain submitted to them. A fee of $10 is charged.

Newfoundland.—No restrictions.

New Zealand.—There is no Medical Board here. The official to whom application must be made is the Registrar of Births, Marriages and Deaths of any of the chief towns. The diplomas must be produced, and a copy certified to by a Justice of the Peace must be left with him. An advertisement must also be inserted in the *New Zealand Gazette.* The fees amount to £1 5*s.*

Nova Scotia.—Application has to be made to the Provincial Medical Board, Halifax, and proof of registration in Great Britain presented. The fee is $25.

North-West Territory.—The Lord Lieutenant is Registrar. Fee $5.

Ontario.—Diplomas have to be presented to the Royal College of Physicians and Surgeons, Toronto, and an examination passed. The fee appears to be $50. There is also a small annual subscription.

Prince Edward's Island.—The Board of Examiners examine the diplomas and charge a fee of 30*s.*

Quebec.—Practitioners must become members of the College of Surgeons and Physicians. No examination is required from holders of a British qualification. There appears to be a fee of $20 and an annual payment of $2.

Sierra Leone.—Practice is free.

Straits Settlements.—Practice is free.

St. Lucia.—Application has to be made to the Chief Clerk in the Government Office. There is no fee.

St. Vincent.—Application has to be made to the Registrar of the Medical Board. Fee £5.

Tasmania.—Here there is a Court of Medical Examiners, whose duty it is to examine the diplomas of applicants. The fee is not mentioned in the statute.

The Bahamas.—No formality is required.

Tobago.—No formality is required.

Trinidad.—The Secretary and Treasurer of the Medical Board act as Registrar. Applicants have to prove their qualifications, and also to show that they bear a good character. All registered persons are members of the Medical Board. There is no fee.

FOREIGN COUNTRIES.

Turning now to the question of practice in foreign countries, it must of course be evident that in them more difficulties are likely to be thrown in the way of a British practitioner than in the colonies. Indeed, in the majority of the more important countries an examination of a tolerably strict character has to be passed before applicants, however well qualified, can obtain leave to practise.

Argentina.—A severe examination, conducted in the Spanish language, must be passed at one of the two medical schools, Buenos Ayres and Cordova. It is said that at the latter school the scientific requirements are lighter, but the fees heavier, than at the former, where they amount to $350 paper currency. Before passing the examination a foreign medical man may, if he pleases, obtain without difficulty a temporary licence to practise in some locality where there is no fully licensed practitioner.

In *Austria* it is necessary not merely to pass the examinations for the degree of Doctor of Medicine of an Austrian University, but to become an Austrian subject. Practically speaking, Austrian territory, which of course includes the Tyrol, seems to be shut off from foreign practitioners. One case has occurred where an Englishman who was engaged as surgeon to some works where a number of English were employed was allowed to pass an examination by means of papers which were translated.

In *Belgium* the Government is authorised, on the advice of a jury, which has the power of granting the diploma of Doctor or Pharmacist, to give permission to applicants who have obtained a diploma abroad entitling them to practise in their own country, but no permission can be given to practise medicine unless the original diploma authorises the holder to practise medicine, surgery and midwifery.

Bolivia.—There appears to be no examination. There is a medical faculty in the University of Sucre.

Brazil.—An examination has to be passed, but it may be conducted in Portuguese or French. It is said to be less severe than some of the other South American examinations. There are faculties of medicine in Rio de Janeiro and Bahia. The recent political troubles may possibly have produced some change in the medical requirements.

Chile.—A severe examination must be passed, conducted in the Spanish language, in the University of Santiago. The examiners are mostly Germans and the requirements are as nearly as possible the same as those of the German *Staats-examen.*

Colombia.—There appears to be no examination. There is a medical school in the University of Bogóta.

Costa Rica.—No formalities required.

Dutch Guiana.—A State Examination, as in Holland, is required.

Ecuador.—No requirements.

In *France* a Bill has passed through the French Legislature that entails considerable changes in the regulations regarding the granting of licences to foreigners to practise. The diploma of Officier de Santé, which is that which has been most commonly taken by English practitioners, is abolished, and all foreigners, whatever may be their diplomas, are obliged to pass the examinations and to go through part of the course of study required for the M.D. degree, which is said to be as difficult as the M.D. of London.

French Guiana.—The medical laws are analogous to those in France.

In *Germany* the State Examination, which is severe, must as a rule be passed. Occasionally exemption may be obtained.

In *Greece* there is an examination, but it may be passed in English or French.

Guatemala.—No requirements. There is a University and Medical School in the capital.

In *Holland, Denmark, Sweden* and *Norway* a severe State Examination must be passed at a University. Under very special circumstances exemption might perhaps be obtained—at least in Norway.

In *Italy* qualified men who confine their practice to their own countrymen are not interfered with, though, in order to practise generally, the M.D. of an Italian University must be obtained.

Mexico.—No examination is required. It is, however, considered that a medical degree from the University of Mexico would be very advantageous to anyone wishing to practise in Central or South America. There are four Government and five State Medical Schools.

Nicaragua.—No restrictions.

Paraguay.—An examination, said to be of a very simple character, has to be passed. The chairman of the Board of Examiners is an Englishman, Dr. HOSKINS. The British Consul, too, is an English medical man.

Peru.—Application should be made to the dean of the Medical Faculty, Lima, who, after verifying the diplomas obtained in Europe, will arrange for the candidate's examination. Five examinations are required and they correspond in general to those of the Paris Faculty; the pharmaceutical preparations which have to be known are those of the French Codex, and the medical jurisprudence is also French. There is a very thorough clinical examination, but plenty of time is allowed, and books, and even the patient's case-register, may be referred to, so that there is no attempt to "catch" or to unnecessarily puzzle a candidate. The examination is of course in the Spanish language, but no very profound knowledge of it is required. A candidate must understand what is said and be able to make his meaning intelligible in that language, but the examiners will permit him to explain himself in French or English. It is not absolutely necessary to take the degree of Doctor, but it is best to do so in the case of desiring to join any of the medical societies. The fees amount to about £40. There is at present no English medical man in practice in Lima; and as there are a good many English and American residents there would seem to be an opening, though of course the country is not so wealthy as before the war.

In *Portugal* a State Examination must be passed at one of the medical schools. This requires a good knowledge of the vernacular, but it is incumbent on those who wish to practise in Portugal or Madeira.

In *Roumania* there is a *vivâ-voce* examination.

In *Russia* the State Examination for *Vrach* (medical practitioner) has to be passed. When the applicant holds a foreign M.D. of high value, the Minister of Education may permit the examination to be confined to reading and defending a somewhat elaborate dissertation or thesis.

Salvador.—No restrictions.

Spanish Honduras.—No restrictions.

In *Spain* recognition can usually be obtained for British diplomas, but there is frequently considerable delay. Application should be made through the British Minister.

In *Switzerland* British practitioners are now obliged to pass the State Examination, which is conducted in French or German, at one of the Swiss universities.

In *Turkey*, including Syria, there is an examination at Constantinople which may be passed in English, with a fee of £4 10s., and there is frequently a good deal of delay.

In *The Orange Free State*, although there is said to be a very conservative feeling towards foreigners, it is believed that British practitioners would, if properly accredited, obtain permission to practise.

Uruguay.—An examination (or rather a complete series of examinations) conducted in Spanish at the University of Monte Video, is required, and a fee of $300 paper currency, which is double the sum required from a native.

Venezuela.—Nominally an examination at one of the two medical schools, Caracas and Maracaibo, is required, but practically there is nothing to hinder an English medical man from practising.

UNITED STATES.

Alabama.—An examination by the State Medical Board or one of the County Boards is required. This lasts about a week and 75 per cent. of the marks in each subject are required to be obtained.

Arizona.—Diploma to be registered by County Recorder.

Arkansas.—Diploma to be registered by the State Board of Examiners or one of the County Boards.

California.—Diploma to be registered by one of the Boards of Medical Examiners. Fee $5.

Colorado.—Registration of diploma by State Board of Medical Examiners.

Connecticut.—No requirements.

Delaware.—Registration of diploma by a County Clerk.

Florida.—Examination required before one of the eight district Boards of Medical Examiners.

Georgia.—Diploma to be registered in the office of the Clerk of the Superior Court.

Idaho.—Diploma to be recorded at the County Seat.

Illinois.—Diploma to be presented to the State Board of Health.

Indiana.—Diploma to be registered by the Clerk of the Circuit Court of the County. Fee $1½.

Iowa.—Diploma to be registered by the State Board of Medical Examiners.

Kansas.—No requirements.

Kentucky.—Diploma to be registered by the State Board of Health.

Louisiana.—Diploma to be presented to the State Board of Health and endorsed and afterwards registered by a County Clerk or Justice of the Peace.

Maine.—No requirements.

Maryland.—Diploma to be presented to the State Board of Health, Baltimore. The fee is $10.

Massachusetts.—No requirements.

Michigan.—Diploma to be registered in the County Clerk's Office.

Minnesota.—Examination required before the State Board of Medical Examiners, St. Paul. Candidates whose diplomas are more than five years old are considered "old practitioners" and are not required to obtain more than 35 per cent. of the marks in anatomy and some other subjects, but their general average must be 65 per cent. There are examinations in January, April, July and October. The fee is $10.

Mississippi.—Examination required before a County Board of Medical Censors.

Missouri.—Diploma to be registered by the State Board of Health, City of Jefferson. Fee $1.

Montana.—Diploma to be presented to the State Board of Medical Examiners.

Nebraska.—Diploma to be registered by the County Clerk.

Nevada.—Diploma to be filed by the County Recorder.

New Hampshire.—No requirements except of a formal character.

New Jersey.—Examination before the State Board of Medical Examiners, Jersey City. The Examination is in writing and occupies two days; 33⅓ per cent. of the marks are required in every subject, and a general average of 75 per cent. Fee $15.

New York.—The only body entitled to license applicants is the University of the State of New York, Albany. An examination, lasting four days, is required. This embraces Anatomy, Physiology, Hygiene, Chemistry, Surgery, Obstetrics, Pathology, Diagnosis, Therapeutics (including Practice) and Materia Medica. Examinations are held in New York (410, East Twenty-sixth-street), Albany (High School Building), Syracuse (High School) and Buffalo (High School) five times a year. Seventy-five per cent. of correct answers are required in all subjects, and all subjects must be passed at the same examination. The fee, which must be paid in advance, is $25.

North Carolina.—Examination by the State Board of Medical Examiners; 80 per cent. of the marks are required to be obtained. A temporary licence can be obtained while waiting for the examination. A fee of $10 is required.

North Dakota.—Examination by the State Board of Medical Examiners, Grand Forks. Examinations held in January, April, July and October.

Ohio.—No requirements.

Oregon.—Diploma must be recorded with Secretary of the State Medical Board, Portland. Fees $2.

Pennsylvania.—Diploma to be endorsed by some medical college in the State, and then registered by a county prothonotary. Fee $1.

Rhode Island.—No requirements.

South Carolina.—Examination before the State Board required.

South Dakota.—Diploma to be recorded by the State Board of Health. Fee $5.

Tennessee.—Diploma to be registered by the State Board of Medical Examiners, Trenton. Fee $1.

Texas.—Diploma to be presented for endorsement to a District Board of Medical Examiners and afterwards registered.

Utah.—No requirements.

Vermont.—Diploma to be endorsed and registered.

Virginia.—Examination by the State Medical Examining Board.

Washington.—Examination by the State Medical Examining Board, Walla Walla. Fee $10.

West Virginia.—Diploma to be registered by the State Board of Health.

Wisconsin.—No requirements, but it is advisable to join some medical society.

Wyoming.—Diploma to be filed with the County Registrar of Deeds.

SESSION 1892-93.

GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION OF THE UNITED KINGDOM.

Registration of Medical Students.—The following are the General Medical Council's Regulations in reference to the registration of students in medicine:—

Every medical student shall be registered in the manner prescribed by the General Medical Council. No medical student shall be registered until he has passed a preliminary examination as required by the General Medical Council, and has produced evidence that he has commenced medical study. The commencement of the course of professional study recognised by any of the qualifying bodies shall not be reckoned as dating earlier than fifteen days before the date of registration. The registration of medical students shall be placed under the charge of the branch registrars. Every person desirous of being registered as a medical student shall apply to the branch registrar of the division of the United Kingdom in which he is residing; and shall produce or forward to the branch registrar a certificate of his having passed a preliminary examination as required by the General Medical Council, and *evidence that he has commenced medical study.* The branch registrar shall enter the applicant's name and other particulars in the Students' Register, and shall give him a certificate of such registration. Each of the branch registrars shall supply to the several qualifying bodies, medical schools, and hospitals, in that part of the United Kingdom of which he is registrar, a sufficient number of blank forms of application for the registration of medical students. The several Branch Councils—and in England the Executive Committee, if its meeting be more convenient and the case be urgent—have power to admit special exceptions to the foregoing regulations as to registration, for reasons which shall appear to them satisfactory. The several qualifying bodies are recommended not to admit to the final examination for a qualification under the Medical Acts any candidate (not exempted from registration) whose name has not been entered in the Medical Students' Register at least forty-five months previously. In the case of candidates from other than schools of the United Kingdom, the Branch Councils—and in England the Executive Committee, if its meeting be more convenient and the case be urgent—have power to admit exceptions to this recommendation.

The Preliminary Examination in General Education required to be passed previously to registration as a Medical Student, shall be as follows:—

"1. English language, including grammar and composition. 2. Latin, including grammar, translation from specified authors, and translation of easy passages not taken from such authors. 3. Mathematics, comprising (*a*) arithmetic, (*b*) algebra, as far as simple equations, inclusive; (*c*) geometry, the subject matter of Euclid, Books I., II., and III., with easy deductions. 4. One of the following optional subjects: (*a*) Greek, (*b*) French, (*c*) German, (*d*) Italian, (*e*) any other modern language, (*f*) logic."

The Council will not in future accept any certificate of pass in Preliminary Examination in General Education unless the whole of the subjects included in the Preliminary Examination required by the Council for Registration of Students of Medicine have been *passed at the same time*, but this rule shall not apply to those who, previously to Jan. 1st, 1892, have passed a part of any Preliminary Examination recognised by the Council; provided that a University Examination required for graduation in Arts, wherein the specified subjects of General Education are included, may be recognised for the purpose of registration.

Professional Education.—1. "The course of professional study after registration should occupy at least five years, conditionally."

2. "The first four of the five years should be passed at a School or Schools of Medicine recognised by any of the Licensing Bodies mentioned in Schedule A of the Medical Act (1858), provided that the first year may be passed at a University or Teaching Institution, recognised by any of the Licensing Bodies, where the subjects of Physics, Chemistry, and Biology are taught."

3. "Graduates in Arts or Science of any University recognised by the Medical Council who shall have spent a year in the study of Physics, Chemistry, and Biology, and have passed an examination in these subjects for the degrees in question, should be held to have completed the first of the five years of medical study."

4. "The fifth year should be devoted to clinical work at one or more of such public hospitals or dispensaries, British or foreign, as may be recognised by any of the medical authorities mentioned in Schedule A of the Medical Act (1858), provided that of this year six months may be passed as a pupil to a Registered Practitioner holding a public appointment, or possessing such opportunities of imparting practical knowledge as shall be satisfactory to the medical authorities."

5. "The Regulations of the Examining Bodies and of the schools should be so framed that attendance on systematic courses may be concluded at the end of the fourth year of study, so as to permit of the student devoting the fifth year to clinical work, as defined in Resolution 4."

6. "*The regulations requiring attendance on systematic* Courses of Lectures ought not to require attendance on more than three Lectures weekly in any one Course."

7. "Due time should be set aside for Practical Work in the various subjects. Attendance on a Practical Course should be carefully ascertained and certified. By a Practical Course is understood one in which work is done by the student himself, under the direction of a duly qualified teacher."

8. "In order to promote a practical system of Clinical Teaching, the Regulations should specify 'Hospital Practice with Clinical Instruction.' Ample time should be set aside for Hospital Work, and means should be taken to ascertain regularity of attendance in the Wards and Out-patient Departments. Every candidate for the Final Professional Examination at the end of the fifth year should be required to give evidence that he has had sufficient opportunities of practical study."

This Resolution relates to such offices as the following: Clinical Medical Clerkship and Surgical Dressership—either for in- or out-patients; Obstetrical Clerkship; post-mortem Clerkship.

9. "No qualification in Medicine ought to be granted without evidence of clinical instruction in infectious diseases."

Professional Examination.—10. "With the view of securing attention to practical work in Education, the time devoted to the practical part of the examinations in all the subjects should be extended.'

11. "The examination in the Elements of Physics (including Mechanics), Chemistry, and Biology should be passed before the beginning of the second winter session."

12. "Antecedent to the Final Examination there should be three Professional Examinations, arranged in such manner as to secure due continuity and sequence of study."

13. "All examinations, except the Final Examination in Medicine, Surgery, and Midwifery, should be passed before the final year intended for clinical work."

14. "The Final Examination in Medicine, Surgery, and Midwifery must not be passed before the close of the fifth year of medical study."

15. "The system of compensation as between the three different subjects of the qualifying examinations—viz., Medicine, Surgery, and Midwifery—is contrary to the intention of the Medical Act (1886), and the Council directs the attention of the several medical authorities to this fact."

16. "The marks for the written and oral examinations in Medicine and Surgery at the Final Examination should not exceed those for the clinical and practical portions of the examination."

17. "Seeing that the practice of different authorities varies on the question whether a student who fails to satisfy the Examiners in each of the several subjects of Medicine, Surgery, and Midwifery should be referred on all of them, or only on those in which he fails, the Council recommends that some general principle should be adopted with reference to this question; and suggests that a percentage of not less than 60 marks on each of any two subjects—supposing that the pass requirement be 50 per cent.—should exempt from re-examination in those two subjects."

18. "The Council recommends to the Examining Bodies the use of a percentage system of marks; and, for facilitating the work of the inspectors appointed by the Council, the adoption of a uniform pass mark of 50 per cent."

19. "With regard to the Course of Study and Examinations which persons desirous of qualifying for the medical profession shall go through in order that they may become possessed of the requisite knowledge and skill for the efficient practice of the profession, the Council now resolves that, in its opinion, the *following conditions ought to be* enforced without exception on all who commence their medical studies at any time after Jan. 1, 1892:—

(a) "With the exceptions provided for under Resolution 3, the period of professional study, between the date of registration as a medical student and the date of Final Examination for any diploma which entitles its bearer *to be* registered under the Medical Acts, must be a period of *bonâ fide* study during not less than five years:

(b) "In every course of professional study and examinations the following subjects must be contained: (i.) Physics, including the Elementary Mechanics of Solids and Fluids, and the rudiments of Heat, Light, and Electricity; (ii.) Chemistry, including the principles of the science and the details which bear on the study of Medicine; (iii.) Elementary Biology; (iv.) Anatomy; (v.) Physiology; (vi.) Materia Medica and Pharmacy; (vii.) Pathology; (viii.) Therapeutics; (ix.) Medicine, including Medical Anatomy and Clinical Medicine; (x.) Surgery, including Surgical Anatomy and Clinical Surgery; (xi.) Midwifery, including Diseases peculiar to Women and to new-born Children; (xii.) Theory and Practice of Vaccination; (xiii.) Forensic Medicine; (xiv.) Hygiene; (xv.) Mental Disease."

* It is to be understood, as regards the above-mentioned subjects, that the Council offers no opinion as to the manner in which the subjects should be combined or distributed for purposes of teaching or examination.

(c) "At successive stated times during the first four years of the course of study all students must pass such intermediate examinations as will test their proficiency in the successive earlier branches of medical education, and, while tending to promote a due sequence in the medical studies, will also tend to lighten the final examination of matters which can properly be spared from it.'

W. J. C. Miller, B.A., Registrar of the General Council and of the Branch Council for England, 299, Oxford-street, London, W.—James Robertson, Registrar of the Branch Council for Scotland, 1, George-square, Edinburgh.—R. L. Heard, M.D., Registrar of the Branch Council for Ireland, 35, Dawson-street, Dublin.

I.—UNIVERSITIES IN THE UNITED KINGDOM.

The following is a list of Examining Bodies whose examinations fulfil the conditions of the Medical Council as regards preliminary education, and have been recognised as entitling to registration as a medical or dental student; provided that the Elementary Mechanics of Solids and Fluids, comprising the elements of Statics, Dynamics, and Hydrostatics, is shown to have been included in the examination:—

University of Oxford.—Junior Local Examinations; Certificate to include Latin and Mathematics, and also one of these optional subjects—Greek, French, German. Senior Local Examinations; Certificate to include Latin and Mathematics. Responsions. Moderations. Examination for a degree in Arts.

University of Cambridge.—Junior Local Examinations; Certificate to include Latin and Mathematics, and also one of these optional subjects—Greek, French, German. Senior Local Examinations; Certificate to include Latin and Mathematics. Higher Local Examinations. Previous Examination. Examination for a degree in Arts.

University of Durham.—Examination for Certificate of Proficiency. Examination for students at the end of their first year. Examination for a degree in Arts.

University of London.—Matriculation Examination. Preliminary Scientific (M.B.) Examination. Examination for a degree in Arts or Science.

Victoria University.—Preliminary Examination; Latin to be one of the subjects. Entrance Examination in Arts, to include all the subjects required.

University of Edinburgh.—Local Examinations (Junior Certificate); Certificate to include English Literature, Arithmetic, Algebra, Geometry, Latin, and also one of these optional subjects—Greek, French, German. Local Examinations (Senior Certificate); Certificate to include English Literature, Arithmetic, Algebra, Geometry, Latin, and also one of these optional subjects—Greek, French, German. Preliminary Examination for Graduation in Science or Medicine and Surgery. Examination for a degree in Arts.

University of Aberdeen.—Local Examinations (Junior Certificate); Certificate to include all the subjects required. Local Examination (Senior Certificate); Certificate to include English Literature, Arithmetic, Algebra, Geometry, Latin, and also one of these optional subjects—Greek, French, German. Preliminary Examination for Graduation in Medicine or Surgery. Examination for a degree in Arts.

University of Glasgow.—Local Examinations (Junior Certificate); Certificate to include all the subjects required. Local Examinations (Senior Certificate); Certificate to include English Literature, Arithmetic, Algebra, Geometry, Latin, and also one of these optional subjects—Greek, French, German. Preliminary Examination for Graduation in Medicine or Surgery. Examination for a degree in Arts.

University of St. Andrews.—Local Examinations (Senior Certificate); Certificate to include English Literature, Arithmetic, Algebra, Geometry, Latin, and also one of these optional subjects—Greek, French, German. Local Examinations (Junior Certificate), to include all the subjects required. Preliminary Examination for Graduation in Medicine or Surgery. Examination for a degree in Arts.

University of Dublin.—Public Entrance Examination. General Examination at end of Senior Freshman year. Examination for a degree in Arts.

Royal University of Ireland.—Matriculation Examination.

Oxford and Cambridge Schools Examination Board.—Certificate to include the following subjects, an adequate knowledge of English Grammer and Orthography, as shown in the course of the examination, to the satisfaction of the examiners, being held as conforming to the requirements of the Medical Council in regard to those subjects: (*a*) Arithmetic, including Vulgar and Decimal Fractions; (*b*) Algebra, including Simple Equations; (*c*) Geometry, including the first two books of Euclid; (*d*) Latin, including Translation and Grammar; (*e*) Also one of these optional subjects—Greek, French, German.

II.—OTHER BODIES NAMED IN SCHEDULE (A) TO THE MEDICAL ACT.

Apothecaries' Society of London.—Examination in Arts.

Royal Colleges of Physicians and Surgeons of Edinburgh.—Preliminary (combined) Examination in General Education.

Faculty of Physicians and Surgeons of Glasgow.—Preliminary Examination in General Education.

Royal College of Surgeons in Ireland.—Preliminary Examination; Certificate to include Mathematics.

III.—EXAMINING BODIES IN THE UNITED KINGDOM, NOT INCLUDED IN SCHEDULE (A) TO THE MEDICAL ACT, 1858.

College of Preceptors.—(44) Examination for a First Class Certificate, or Second Class Certificate of First or Second

Division, Algebra, Geometry, Latin, and either a Modern Language, or Greek, or Logic, having been taken. (45) Preliminary Examination for Medical Students.

Intermediate Education Board of Ireland.—(46) Junior Grade Examination, (47) Middle Grade Examination, (48) Senior Grade Examination (Certificate in each case to include all the subjects required).

Educational Institute of Scotland.—(49) Preliminary Medical Examination.

Scotch Education Department.—(50) Leaving Certificates in each Grade and in Honours.

IV.—Indian, Colonial, and Foreign Universities and Colleges.

"The Certificates from Indian, Colonial, and Foreign Universities and Colleges must contain evidence that the Examination passed included all the subjects required by the General Medical Council. In the case of Natives of India or other Oriental countries, whose vernacular is other than English, an Examination in a Classic Oriental Language may be accepted instead of an Examination in Latin."

REGULATIONS OF THE MEDICAL EXAMINING BOARDS IN THE UNITED KINGDOM.

UNIVERSITY OF OXFORD.

There are two degrees in Medicine, B.M. and D.M., and two degrees in Surgery, B.Ch. and M.Ch.

The B.M. and B.Ch. degrees are granted to those members of the University who have passed the Second Examination. Graduates in Arts (B.A. or M.A.) are alone eligible for these two degrees. In order to obtain the degrees of B.M. and B.Ch. the following examinations must be passed:—1. Preliminary subjects: Mechanics and Physics, Chemistry, Animal Morphology and Botany. 2. Professional. (*a*) First Examination: Subjects—Organic Chemistry, unless the candidate has obtained a first or second class in Chemistry in the Natural Science School; Human Physiology, unless he has obtained a first or second class in Animal Physiology in the Natural Science School; Human Anatomy, and Materia Medica with *Pharmacy*. (*b*) Second Examination: Subjects—Medicine, Surgery, Midwifery, Pathology, Forensic Medicine with Hygiene. The approximate dates of the examinations are as follows:—Preliminaries—Mechanics, Physics and Chemistry, November and June; Animal Morphology and Botany, December and March; Professional First B.M., June and December.

Note.—The examination in June includes all the subjects, that in December Anatomy and Physiology only, Second B.M. about the beginning of June.

The degree of D.M. is granted to Bachelors of Medicine of the University—(1) who took the degree of B.M. previously to the end of Trinity Term, 1886, provided they have spent three years in the practice of Medicine after taking that degree, and have composed a dissertation on some medical subject approved by the Regius Professor of Medicine, before whom it must be read in public; (2) who took the degree of B.M. subsequently to the end of Trinity Term, 1886, provided they have entered their thirty-ninth term and have composed on some medical subject a dissertation which is approved by the professors in the Faculty of Medicine and examiners for the degree of B.M. whose subject is dealt with. A book published within two years of the candidate's application for the degree may be substituted for a dissertation. The degree of M.Ch. is granted to Bachelors of Surgery of the University who have entered their twenty-seventh term, who are members of the surgical staff of a recognised hospital, or have acted as Dresser or House Surgeon in such a hospital for six months, and who have passed an examination in Surgery, Surgical Anatomy, and Surgical Operations. This examination is held annually at the end of the Second B.M. Examination.

The First Examination for the degrees of B.M. and B.Ch. may be passed as soon as the Preliminary Scientific Examination has been completed. The subjects of this examination may be presented separately or in any combination or in any order, provided Anatomy and Physiology be passed together.

The Second Examination may be passed after the completion of the first.

Scholarships &c.—Scholarships in some branch of Natural Science (Chemistry, Physics, Biology) of the average value of £80 per annum, tenable for four years and renewable under certain conditions for a fifth year, as well as Exhibitions of a less annual value, are awarded after competitive examination every year by some, from time to time by other, Colleges. Notices of vacancy &c. are published in the *University Gazette*. In February there is competed for annually, by those who have obtained a first class in any school (Moderations or final) or a Scholarship or Prize open to general competition in the University, one Radcliffe Travelling Fellowship. It is tenable for three years, and is of the annual value of £200. The examination is partly scientific, partly medical. The holder must travel abroad for the purpose of medical study, and take the degree of B.M. Oxon. A Rolleston Memorial Prize is awarded once in two years to members of the Universities of Oxford and Cambridge of not more than ten years' standing for an original research in some Biological subject, including Physiology or Pathology.

More detailed information may be obtained from the University Calendar; *the Examination Statutes, 1891*, which contain the official schedules of the several subjects of examination in both Arts and Medicine; from the Student's Handbook to the University; from the Regius *Professor of Medicine*; from the *Professors* in the several departments of science.

UNIVERSITY OF CAMBRIDGE.

The student must enter at one of the Colleges, or as a non-collegiate student, and keep nine terms by residence in the University. He must pass the Previous Examination in Classics and Mathematics, which may, and should if possible, be done immediately on coming into residence in October, or, what is better, obtain exemption through the Oxford and Cambridge Schools Examination Board or the Cambridge Local Examinations, before commencing residence. He may then devote himself to medical study in the University, attending the hospital and the medical lectures, dissecting &c. Or he may, as nearly all students now do, proceed to take a degree in Arts, either continuing mathematical and classical study and passing the ordinary examinations for B.A., or going out in one of the Honour Triposes. The Natural Sciences Tripos is the most appropriate, as some of the subjects are practically the same as those for the first and second M.B. examinations.

For the degree of *Bachelor of Medicine (M.B.)* five years of medical study are required. This time may be spent in Cambridge or at one of the recognised Schools of Medicine. The first three or four years are usually spent in Cambridge, the student remaining in the University till he has passed, say, the examination for the Natural Sciences Tripos and the first and second examinations for M.B. Cambridge being now a complete School of Medicine, all the requisite lectures and hospital practice may be attended here, and many students remain to attend lectures and hospital practice until they have passed the first part of the third examination for M.B. The supply of subjects for Dissection, Practical Surgery, &c., is unusually abundant.

There are three examinations for M.B. The *first* in Chemistry and other branches of Physics, and in Elementary Biology. These parts may be taken together or separately. The *second* in Human Anatomy and Physiology, and in Pharmaceutical Chemistry. These may be taken together or separately. The *third* may also be taken in two parts—viz., (1) Principles and Practice of Surgery (with Operative and Clinical Surgery) and Midwifery and Diseases of Women, and (2) Pathology, Principles and Practice of Medicine, Elements of Hygiene and Medical Jurisprudence. The examinations are partly in writing, partly oral, and partly practical, in the hospital, in the dissecting-room and in the laboratories.

As Operative and Clinical Surgery now form parts of the third M.B. examination candidates who have passed both parts of that examination are admitted to the degree of *Bachelor of Surgery (B.C.)* without separate examination, and without keeping an Act.

The degree of *Doctor in Medicine* may be taken three years after that of M.B. or four years after that of M.A. An Act has to be kept, consisting of an original Thesis sustained in the Public Schools, with *vivâ-voce* examination; and an extempore Essay has to be written on some subject relating to Physiology, Pathology, the Practice of Medicine or State Medicine.

For the degree of *Master in Surgery (M.C.)* the candidate must have passed all the examinations for B.C. He is required to pass an examination in Surgical Anatomy and Surgical Operations, Pathology and the Principles and Practice of Surgery, and to write an extempore Essay on a Surgical Subject. Before he can be admitted to this examination two years at least must have elapsed from the time when he completed all required for the degree of B.C.

An abstract of the Regulations and Schedules of the range of the examinations in Chemistry, Physics, Biology and Pharmacy may be obtained upon sending a stamped directed envelope to the Assistant Registrary, Cambridge. Full information is contained in the *Cambridge University Calendar.*

UNIVERSITY OF LONDON.

The *Matriculation Examinations* take place on the second Monday in January and the second Monday in June. Candidates must be above sixteen years of age. The fee for the examination is £2. Provincial examinations are appointed by the Senate from time to time at specified centres. The examination appointed for January 13th, 1890, will be held at Birmingham, Cardiff, Glasgow, Leeds and Portsmouth, as well as at London. That appointed for June, 1890, will be held also at Bangor, Birmingham, Cardiff, Edinburgh, Epsom, Leeds, Liverpool, Manchester, Newcastle-on-Tyne, Nottingham and Sheffield. Several scholarships, exhibitions and prizes are associated with these examinations.

The *Preliminary Scientific (M.B.) Examination* takes place twice in each year, once for Pass and Honours, commencing on the third Monday in July, and one for Pass candidates only on the third Monday in January.[1] No candidate will be admitted to this examination until he shall have passed the Matriculation Examination, nor unless he shall have given notice of his intention to the registrar at least one calendar month before the commencement of the examination. Fee for this examination, £5.

Bachelor of Medicine.—Every candidate for the degree of Bachelor of Medicine will be required—1. To have passed the Matriculation Examination in this University. 2. To have passed the Preliminary Scientific Examination. 3. To have been engaged in his professional studies during four years subsequently to passing the Preliminary Scientific Examination[2] at one or more of the medical institutions or schools recognised by this University, one year at least of the four to have been spent in one or more of the recognised institutions or schools in the United Kingdom. 4. To pass two examinations in Medicine.

Intermediate Examination.—The Intermediate Examination in Medicine takes place twice in each year, once for Pass and Honours, commencing on the second Monday in July, and once for Pass candidates only, commencing on the third Monday in January. No candidate shall be admitted to this examination unless he have passed the Preliminary Scientific Examination at least two years previously, and have produced certificates to the following effect:—1. Of having completed his nineteenth year. 2. Of having, subsequently to having passed the Matriculation Examination, been a student during two years at one or more of the medical institutions or schools recognised by this University, and of having attended a course of lectures on each of three of the subjects in the following list: Descriptive and Surgical Anatomy, Histology and Physiology, Pathological Anatomy, Materia Medica and Pharmacy, General Pathology, General Therapeutics, Forensic Medicine, Hygiene, Obstetric Medicine and Diseases peculiar to Women and Infants, Surgery, Medicine. 3. Of having, subsequently to having passed the Preliminary Scientific Examination, dissected during two sessions. 4. Of having, subsequently to having passed the Preliminary Scientific Examination, attended a course of Practical Chemistry, comprehending practical exercises in conducting the more important processes of general and pharmaceutical chemistry, in applying tests for discovering the adulteration of articles of the Materia Medica and the presence and nature of poisons, and in the examination of mineral waters, animal secretions, urinary deposits, calculi &c. 5. Of having attended to Practical Pharmacy and of having acquired a practical knowledge of the preparation of medicines. These certificates (as is the case also with all the certificates hereinafter mentioned) must be transmitted to the Registrar, at least four weeks before the commencement of the examination. Fee for this examination, £5.

M.B. Examination.[3]—The M.B. Examination takes place twice in each year—once for Pass and Honours, commencing on the last Monday in October; and once for Pass candidates only, commencing on the first Monday in May. No candidate will be admitted to this examination within two academical years of the time of his passing the Intermediate Examination unless he be a registered medical practitioner of not less than three years' standing, in which case he must produce a certificate of having gone through the required course of training at some time previously. Every candidate must produce certificates showing that he has passed all the previous examinations and of having attended a course of lectures on each of two of the subjects enumerated in Section 2 of the regulations for that examination, and for which the candidate had not on that occasion presented certificates. 3. Of having conducted at least twenty labours. Certificates on this subject will be received from any legally qualified practitioner in Medicine. 4. Of having attended the Surgical Practice of a recognised hospital or hospitals during two years, with clinical instruction and lectures on Clinical Surgery. 5. Of having attended the Medical Practice of a recognised hospital or hospitals during two years, with clinical instruction and lectures on Clinical Medicine. 6. Of having, after having attended Surgical and Medical Hospital Practice for at least twelve months subsequently to passing the Intermediate Examination, attended to Practical Medicine, Surgery, or Obstetric Medicine, with special charge of patients, in a hospital, infirmary, dispensary, or parochial union during six months, such attendance *not* to be counted as part of either the Surgical or the Medical Hospital Practice prescribed in Clauses 4 and 5. 7. Of having acquired proficiency in Vaccination. Certificates on this subject will be received only from the authorised vaccinators appointed by the Privy Council. The fee for this examination is £5.

Bachelor of Surgery.—The examination for the degree of Bachelor of Surgery takes place once in each year, and commences on the Tuesday following the first Monday in December. Candidates must produce certificates to the following effect:—1. Of having passed the examination for the degree of Bachelor of Medicine in this University. 2. Of having attended a course of instruction in Operative Surgery and of having operated on the dead subject. Fee for this examination, £5

Master in Surgery.—The examination for the degree of Master in Surgery takes place once in each year, and commences on the first Monday in December.

Candidates must produce certificates to the following effect:—1. Of having taken the degree of Bachelor of Surgery in this University.[4] 2. Of having attended, subsequently to having taken the degree of Bachelor of Surgery in this University: (*a*) to Clinical or Practical Surgery during two years in a hospital or medical institution recognised by this University; or (*b*) to Clinical or Practical Surgery during one year in a hospital or medical institution recognised by this University, and of having been engaged during three years in the practice of his profession; or (*c*) of having been engaged during five years in the practice of his profession, either before or after taking the degree of Bachelor of

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[1] Candidates for the degree of M.B. are required by the Senate to pass the Preliminary Scientific Examination before commencing their regular medical studies, and are recommended to devote a preliminary year to preparation for it, according to the following programme:—Winter Session: Experimental Physics, Chemistry (especially Inorganic), Zoology. Summer Session: Practical Chemistry (Inorganic), Botany.

[2] Candidates who passed the Matriculation Examination in January [illegible], or previously, will be allowed to date the commencement of their professional studies, as heretofore, from that examination.

[3] Any candidate for the M.B. Examination who has passed the Intermediate Examination under the former regulations will be required to have also passed the examination in Physiology at some previous Intermediate Examination carried on under the present regulations, at which examination he shall not be allowed to compete for Honours.

[4] Candidates who have obtained the degree of Bachelor of Medicine previously to 1866 will be admitted to the examination for the degree of Master in Surgery without having taken the degree of Bachelor of Surgery; and in the case of such candidates the attendance on surgical practice required by Regulation 2 may commence from the date of the M.B. degree.

Surgery in this University. One year of attendance on Clinical or Practical Surgery, or two years of practice, will be dispensed with in the case of those candidates who at the B.S. Examination have been placed in the first division. 3. Of moral character, signed by two persons of respectability.

Fee for this degree, £5. The examination is conducted by means of printed papers and *vivâ-voce* interrogation.

Candidates will be examined in Mental Psysiology, especially in its relations to mental disorder, and in Surgery.

Any candidate for the degree of M.S. may transmit to the Registrar, not later than October 1st, a printed Dissertation, Thesis, or Commentary, written in view of candidature, or published within two academical years immediately preceding, treating scientifically some special department of Surgical Science.

Doctor of Medicine.—The examination for this degree takes place once in each year and commences on the first Monday in December.

Candidates must produce certificates to the following effect: 1. Of having passed the examination for the degree of Bachelor of Medicine in this University. 2. Of having attended, subsequently to having taken the degree of Bachelor of Medicine in this University, (*a*) to Clinical or Practical Medicine during two years in a hospital or medical institution recognised by this University, or, if he enter for State Medicine, during two years to State Medicine; or (*b*) to Clinical or Practical Medicine during one year in a hospital or medical institution recognised by this University, or during one year to State Medicine as above, and having been engaged during three years in the practice of his profession; or (*c*) of having been engaged during five years in the practice of his profession, either before or after taking the degree of Bachelor of Medicine in this University.

Fee for this degree, £5. The examination is conducted by means of printed papers and *vivâ-voce* interrogation.

UNIVERSITY OF DURHAM.

Three Licences and six degrees in Medicine and Hygiene are conferred—viz., Licences in Medicine, in Surgery, and in Sanitary Science; and the degrees of Bachelor in Medicine, Bachelor in Surgery, Master in Surgery, Doctor in Medicine, Bachelor in Hygiene, and Doctor in Hygiene.

For the degree of *Bachelor in Medicine* (*M.B.*) there are four professional examinations.

The subjects for the First Examination are—Elementary Anatomy and Elementary Biology, Chemistry and Physics.

The subjects for the Second Examination are—Anatomy, Physiology, Materia Medica, Therapeutics and Pharmacology.

The subjects for the Third Examination are—Medicine. Surgery, Pathology, Medical Jurisprudence, Public Health and Practical Pharmacy.

The subjects of the Fourth Examination are—Clinical Medicine, Clinical Surgery, Midwifery and Diseases of Women and Children.

N.B.—It is required that one of the five years of professional education shall be spent in attendance at the University College of Medicine, Newcastle-upon-Tyne. Candidates for the First Examination who have passed the First Examination of the Conjoint Board in England, and candidates who hold a qualification from a recognised Licensing Body in the United Kingdom, will be exempt from the First Examination of the University, except in the subjects of Chemistry with Physics and Botany. Candidates who have passed the First and Second Examinations of the University will be exempt from the First and Second Examinations of the Conjoint Board.

For the degree of *Bachelor in Surgery* (*B.S.*) every candidate must have passed the examination for the degree of Bachelor in Medicine of the University of Durham, and must have attended one course of lectures on Operative Surgery, and one course on Regional Anatomy. Candidates will be required to perform operations on the dead body, and to give proof of practical knowledge of the use of surgical instruments and appliances.

For the degree of *Master in Surgery* (*M.S.*) candidates must not be less than twenty-four years of age, and must satisfy the University as to their knowledge of Greek. In case they shall not have passed in this subject at the Preliminary Examination in Arts for the M.B. degree, they must present themselves at Durham for examination in it at one of the ordinary examinations held for this purpose before they can proceed to the higher degree of M.S. They must also have obtained the degree of Bachelor in Surgery of the University of Durham, and must have been engaged for at least two years, subsequently to the date of acquirement of the degree of Bachelor in Surgery, in attendance on the practice of a recognised hospital, or in the naval or military services, or in medical or surgical practice.

The subjects of examination are:—Principles and Practice of Surgery, Surgical Pathology, Surgical Anatomy, Surgical Operations, Clinical Surgery.

For the degree of *Doctor in Medicine* (*M.D.*) candidates must be of not less than twenty-four years of age, and must satisfy the University as to their knowledge of Greek. In case they shall not have passed in this subject at the Preliminary Examination in Arts for the M.B. degree they must present themselves at Durham for examination in it at one of the ordinary examinations held for this purpose before they can proceed to the higher degree of M.D. They must also have obtained the degree of Bachelor in Medicine of the University of Durham, and must have been engaged for at least two years, subsequently to the date of acquirement of the degree of Bachelor in Medicine, in attendance on the practice of a recognised hospital, or in the military or naval services, or in medical and surgical practice.

Each candidate must write an Essay, based on original research or observation, on some medical subject selected by himself, and approved of by the Professor of Medicine, and must pass an examination thereon, and must be prepared to answer questions on the other subjects of his curriculum so far as they are related to the subject of the Essay.

Candidates for any of the above degrees must give at least twenty-eight days notice to the Registrar of the College.

VICTORIA UNIVERSITY.

Colleges of the University: Owens College, Manchester; University College, Liverpool; and Yorkshire College, Leeds.

Four degrees in Medicine and Surgery are conferred by the Victoria University—viz., Bachelor of Medicine and Bachelor of Surgery (M.B. and Ch.B.), Doctor of Medicine (M.D.), and Master of Surgery (Ch.M.).

All candidates for degrees in Medicine and Surgery are required—(1) to have matriculated in the University; and (2) to pass (either *before* or *after* matriculation) an examination called the Entrance Examination in Arts, or to have passed such other examination as may be recognised by the University for this purpose.[5]

Degree of Bachelor of Medicine.—Before admission to the degree of M.B. candidates are required to present certificates that they will have attained the age of twenty-one years on the day of graduation, and that they have pursued the courses of study required by the University Regulations during a period of not less than five years subsequently to the date of their registration by the General Medical Council, two of such years having been passed in a college of the University, and one year at least having been passed in a college of the University subsequently to the date of passing the First M.B. Examination. All candidates for the degrees of Bachelor of Medicine and Bachelor of Surgery are required, after matriculating, to satisfy the examiners in the several subjects of the following examinations: the First Examination, the Second Examination, and the Final Examination.

The First Examination.—The subjects of examination are as follows:—(1) Chemistry; (2) Elementary Biology; (3) Physics. Candidates must have attended during at least one year courses both of lectures and of laboratory work in each of the above-named subjects.

The Second Examination.—The subjects of examination are as follows:—(1) Anatomy; (2) Physiology, including

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[5] The examinations at present recognised are:—1. The Preliminary Examination of the Victoria University, provided Latin and Mechanics have been taken up. 2. The Matriculation Examination of the University of London. 3. The Previous Examination of the University of Cambridge. 4. Responsions and Moderations of the University of Oxford. 5. The Leaving Certificate Examination of the Oxford and Cambridge Boards, provided that it include Latin, English, Mathematics, and Elementary Mechanics. 6. The Final Examination for Graduation in Arts of any University in Great Britain and Ireland.

Physiological Chemistry and Histology; (3) Materia Medica and Pharmacy.

The Final Examination.—The subjects of examination are as follows:—(1) Pharmacology and Therapeutics. (2) General Pathology and Morbid Anatomy. (3) Forensic Medicine and Toxicology, and Public Health. (4) Obstetrics and Diseases of Women. (5) Surgery, Systematic, Clinical and Practical. (6) Medicine, Systematic and Clinical, including Mental Diseases and Diseases of Children.

Candidates may either present themselves in all the six subjects of examination on the same occasion, or may pass the examination in two parts, the first part consisting of two or *three* of the subjects (1), (2) and (3), the second part of the remaining subjects.

Candidates who fail to satisfy the examiners in a first part must either present themselves again in the subjects as selected or in all the six subjects of examination.

Candidates for a final part of the examinations must have completed the *fourth winter* of medical study, in accordance with the regulations of the University.

Candidates for a second part of the examination, or for the whole examination, must have completed the *fifth* year of medical study, in accordance with the regulations of the University.

Degree of Doctor of Medicine.—Candidates are not eligible for the degree of Doctor of Medicine unless they have previously received the degree of Bachelor of Medicine, and at least one year has elapsed since they passed the examination for that degree. Candidates for the degree of Doctor of Medicine are required to present a printed Dissertation embodying the results of personal observations or original research, either in some department of medicine or of some science directly relative to medicine. No candidate will be admitted to the degree unless his Dissertation, after report from the Departmental Board of Medical Studies, shall have been recommended by the General Board of Studies to the Council for acceptance in that behalf. Candidates may be examined on any subject connected with their dissertations.

Degree of Master of Surgery.—Candidates are not eligible for the degree of Master of Surgery unless they have previously received the degree of Bachelor of Surgery, and at least one year has elapsed since they passed the examination for that degree. The subjects of examination are as follows: (1) Surgical Anatomy; (2) Surgical Pathology; (3) Practical Surgery, including the performance of operations on the dead body; (4) Clinical Surgery; (5) Ophthalmology.

UNIVERSITY OF EDINBURGH.

Three medical degrees are conferred by the University of Edinburgh—namely, Bachelor of Medicine (M.B.), Master in Surgery (C.M.), and Doctor of Medicine (M.D.). The degree of Master in Surgery is not conferred on any person who does not also at the same time obtain the degree of Bachelor of Medicine.

No one is admitted to the degrees of Bachelor of Medicine and Master in Surgery who has not been engaged in Medical and Surgical study for four years.[6]

Every candidate for the degrees of M.B. and C.M. must give sufficient evidence by certificates—(*a*) That he has studied each of the following departments of medical science—namely, Anatomy, Chemistry, Materia Medica, Institutes of Medicine or Physiology, Practice of Medicine, Surgery, Midwifery and the Diseases peculiar to Women and Children, and General Pathology, each during courses including not less than one hundred lectures; Practical Anatomy, a course of the same duration as those of not less than one hundred lectures;[7] Practical Chemistry, three months; Practical Midwifery—(1) that he has attended at least twelve cases of labour under the superintendence of a registered medical practitioner, or (2) that he has attended six such cases, and also has attended, for at least three months, the practice of a midwifery hospital in which practical instruction is regularly given; Clinical Medicine and Clinical Surgery;[8] courses of the same duration as those of not less than one hundred lectures, or two courses of three months' lectures, being given at least twice a week; Medical Jurisprudence, Botany, and Natural History (including Zoology), during courses including not less than fifty lectures. (*b*) That he has attended, for at least two years, the medical and surgical practice of a general hospital which accommodates not fewer than eighty patients, and possesses a distinct staff of physicians and surgeons. (*c*) That he has attended, during a course of not less than fifty hours' instruction, the class of Practical Materia Medica and Pharmacy in the University of Edinburgh, or a similar class conducted in a university or recognised school of medicine, or a similar class conducted at the laboratory of a hospital or dispensary, or elsewhere, by a teacher recognised by the University Court; or that he has been engaged by apprenticeship for not less than two years with a registered medical practitioner, or a member of the Pharmaceutical Society of Great Britian, or a member of the Pharmaceutical Society of Ireland, or a pharmaceutical chemist, or chemist and druggist, registered under the provisions of the Act for Regulating the Qualifications of Pharmaceutical Chemists, 1852, the Pharmacy Act, 1868, or the Pharmacy Act (Ireland), 1875, in the *bonâ-fide* compounding and dispensing of drugs, and the preparation of their officinal and other preparations under his superintendence. (*d*) That he has attended, for at least six months, by apprenticeship or otherwise, the outdoor practice of a hospital, or the practice of a dispensary physician, a surgeon or a member of the London or Dublin Society of Apothecaries. (*e*) That he has attended, during courses of not less than fifty hours' instruction, classes of Practical Physiology and Practical Pathology in the University of Edinburgh, or in a recognised university or school of medicine, or upon classes thereof, conducted by a teacher recognised by the University Court.

Students of Medicine in the London Schools, and in the school of the College of Surgeons in Dublin, can obtain there two *anni medici* out of the four required for the Edinburgh degrees in Medicine. Courses of lectures in these schools and the courses of the medical teachers and of the science teachers in King's College and in University College, London, in the subjects of graduation, are regarded as equivalent to lectures on the corresponding subjects in this University, except Materia Medica and Midwifery, which, when only three months' courses, are not received as equivalent. One *annus medicus* may be constituted by attendance on Practical Anatomy and Hospital Practice during the winter session. Another *annus medicus* by attending either (*a*) full winter courses on any two of the following subjects—Anatomy, Physiology, Chemistry, Pathology, Surgery, Medicine, Clinical Surgery, Clinical Medicine; or (*b*) on one such course and two three months' courses on any of the following subjects—Botany, Practical Chemistry, Natural History, Medical Jurisprudence. If the student selects the arrangement prescribed in *a*, attendance on a third course, although unnecessary to constitute an *annus*, will also be accepted. The other subjects and the additional courses, not given in London or Dublin, necessary for the degrees of the University, require to be attended at this University. In provincial schools where there are no lecturers recognised by the University Court a candidate can only have one *annus medicus*, and this is constituted by attendance at a qualified hospital along with a course of Practical Anatomy. But in a provincial school where there are two or more lecturers recognised by this University a second *annus medicus* may be made by attendance on at least two six months' or one six months' and two three months' recognised courses.

Every candidate must deliver, before the 31st day of March of the year in which he proposes to graduate, to the Dean of the Faculty of Medicine, a declaration in his own handwriting that he has completed his twenty-first year.

Each candidate is examined, both in writing and orally, on Chemistry, Botany and Natural History (Physics is now required by the regulation of the General Medical Council), on Anatomy, Institutes of Medicine, Materia Medica (including Practical Pharmacy and Prescribing) and Pathology; on Surgery, Practice of Medicine, Midwifery and Medical Jurisprudence; clinically, on Medicine and on Surgery in a hospital. The examinations on Anatomy, Chemistry, Institutes of Medicine, Botany, Natural History, Materia Medica and Pathology are conducted, as far as possible, by demonstrations of objects placed before the candidates. Students who profess themselves ready to submit to an examination in the first division of these subjects may be admitted to examination therein at the first period of examination after they have completed their attendance on the necessary classes, provided always that it shall be lawful for students to proceed to examination in the said subjects under one or more of the following subdivisions—namely: (*a*) Botany and Natural History, (*b*) Chemistry (including Practical Chemistry), (*c*) Botany and Chemistry (including Practical Chemistry), or (*d*) Natural History and Chemistry (including Practical Chemistry), at the first period of examination after they have completed attendance on the relative classes; and to proceed to examination in the remaining subject or subjects at a subsequent period of examination. Students who have passed their examination on the first division of these subjects may be admitted to examination on the second division at the end of their third year. The examination on the third and fourth divisions cannot take place until the candidate has completed his fourth *annus medicus*. Candidates may, if they choose, be admitted to examination on the first two of these divisions at the end of their third year, or to the four examinations at the end of their fourth year.

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[6] No course of lectures will be allowed to qualify unless the lecturer [illegible] that it has embraced at least one hundred lectures, or fifty [illegible], in conformity with the requirements of this section. Three [illegible] courses on Materia Medica, Pathology, and Midwifery do not [illegible]

[7] Certificates of attendance on Practical Anatomy must express not [illegible] number of months engaged in dissection, but the names of the [illegible] and the degree of care with which the dissections have [illegible]. Students are recommended not to appear for an examination in Anatomy with a view to a degree until they have dissected the [illegible] body at least once.

[8] The Medical Faculty recommend that medical students should not attend Clinical Surgery during their first six months' attendance on Clinical Medicine.

The degree of Doctor of Medicine may be conferred on any candidate who has obtained the M.B. and C.M. of the University, and who is of the age of twenty-four years, and produces a certificate of having been engaged, subsequently to his having received the degrees of M.B. and C.M., for at least two years in attendance on a hospital, or in a military or naval medical service, or in medical and surgical practice. Provided always that the degree of M.D. shall not be conferred on any person unless he be a graduate in Arts of one of the Universities of England, Scotland or Ireland, or of such other universities as are above specified, or unless he shall before or at the time of his obtaining the degrees of M.B. and C.B., or thereafter, have passed a satisfactory examination on *three* of the subjects mentioned in Section II. of the statutes relative to preliminary examination. Two of these must be Greek and Logic or Moral Philosophy, and the third is to be one of the following subjects, at the option of the candidate—namely, French, German, Higher Mathematics and Natural Philosophy. And provided also that the candidate for the degree of M.D. shall submit to the Medical Faculty a thesis, certified by him to have been composed by himself, and which shall be approved by the Faculty, on any branch of knowledge comprised in the Professional Examinations for the degrees of M.B. and C.M. which he may have made a subject of study after having received these degrees.

The fees for M.B. and C.M. are £22. Total fees and stamp for graduating as M.D. only, by regulations for students commencing before February, 1861, £25. The fees for examination must be paid at the secretary's office ten days before the date thereof, and the fees for the degree of M.D. and the stamp duty for the latter must be paid on or before the 15th day of July in the year of graduation. In the event of the candidate not passing any one of the Professional Examinations, the fee is not returned; but he may appear at one subsequent examination without paying an extra fee, and at any future examination on paying one-half the fee.

UNIVERSITY OF GLASGOW

The fees for the degrees are £23 2s. for M.B. and Ch.B., which are obtained together, £10 10s. (exclusive of stamp duty) for M.D., and £10 10s. for Ch.M.

A syllabus containing further particulars may be obtained by application to the assistant clerk, Matriculation Office, the University.

The First, Second, and Third Professional Examinations are held in March and in October each year, and the Fourth or Final Examination is held annually in June and July.

The candidate for the degrees of Bachelor of Medicine and Bachelor of Surgery must have been registered in the books of the General Medical Council at least five years prior to the date of his graduation. Students should see to registration without delay, as considerable trouble and disappointment have sometimes arisen through ignorance or neglect of this requirement.

A degree in Arts or in Science (not being an honora degree) in any of the Universities of the United Kingdo or in any Colonial or Foreign University specially recognis for the purpose by the University Court, shall exempt fro the preliminary examination, and the Joint Board Examiners appointed under the provisions of Ordinanc General No. 8, by the Scottish Universities' Commissione have power to determine what examinations, other th those for the degrees before mentioned, shall be accept in place of the Preliminary Examination.

This registration in the books of the Medical Counci which is imperative on candidates for any legal qualificati to practise whatsoever, is quite distinct from matriculati or other registration of students in the books of t University.

PROFESSIONAL EDUCATION.

Duration and Constitution of the Curriculum.—Cand dates shall be admitted to the degree of Bachelor of Med cine and Bachelor of Surgery only after they have bee engaged in medical study for five years,—the medical sessio of each year, or *annus medicus*, being constituted by at lea two courses of not less than one hundred lectures each, by one such course and two courses of not less than fift lectures each; but in the case of the Clinical Courses shall be sufficient that the lectures be given at least twice week during the prescribed periods.

Two of the five years of medical study must be in th University of Glasgow. During each of the first four yea the candidate must have attended at least two courses instruction in the prescribed subjects, each course extendin over a session of not less than five months; or alternatively one such course along with two courses, each extending ove a session of not less than two months and a half. Durin the fifth year the candidate must be engaged in clinica study for at least nine months at a public hospital or dis pensary. The remaining three years may be spent in an University of the United Kingdom, or in any recognise Indian, colonial, or foreign University, or in recognise medical schools or under recognised teachers.

All candidates availing themselves of the permission to attend the lectures of extra-academical teachers in Glasgow and not being at the time matriculated students of the University, must at the commencement of the year of such attendance, enrol their names in a book kept by the University for that purpose, paying a fee of the same amount as the matriculation fee paid by students of the University; and having, in respect of such payment, a right to the use of the University Library.

The fee for attendance on the lectures of any extra-academical teacher in Glasgow, with a view to graduation, shall be not less than the amount exigible for the corresponding courses in the University.

No attendance on lectures shall be reckoned if the teacher gives instruction in more than one of the prescribed branches of study, except in those cases where professors of the University are at liberty to teach more than one branch.

The terms for conferring Medical and Surgical degrees in Session 1892–3 are Nov. 10th, 1892; Feb. 9th, 1893; April 21st, 1893; and July 27th, 1893.

M.D. Examination.—The conditions for this degree are in great part similar to those which obtain in the University of Glasgow. Each candidate will be required to pass an examination in Clinical Medicine at any period subsequently to one year after obtaining his M.B. and C.M. degrees. He will also be required to write a Thesis. If the candidate is going abroad he may take the Clinical Examination at any time after passing the M.B. and C.M. examination. But the degree of Doctor of Medicine shall not be conferred on him unless he shall produce a certificate that, subsequently to having received the M.B. and C.M. degrees, he has been engaged for at least one year in attendance in the medical wards of a hospital or in scientific work bearing directly on his profession, such as is conducted in the research laboratories of the University or in the naval or military medical services, or for at least two years in practice which has not been exclusively surgical, and unless his Thesis in the judgment of the Faculty of Medicine is of exceptional merit.

Fees.—The fee to be paid for the degrees of Bachelor of Medicine and Bachelor of Surgery shall be twenty-two guineas, and the proportion of this sum to be paid by a candidate at each division of the examination shall be regulated from time to time by the University Court. The fee to be paid for the degree of Doctor of Medicine shall be ten guineas, exclusive of any stamp duty which for the time may be exigible. The fee to be paid for the degree of Master of Surgery shall be ten guineas.

Out-door Visitation.—Under the superintendence of a consulting staff of physicians and surgeons connected with the University, students in the last year of their course are permitted to visit and prescribe for the sick poor in the Anderston district. For this no fee is charged, and medicines are dispensed gratis. Upwards of 3000 visits are made annually.

UNIVERSITY OF ABERDEEN.

The curricula for the several degrees conferred are nearly the same as in the University of Edinburgh.

Professional Examinations will be held twice in each year—namely, in March and July, directly after the close of the winter and summer sessions.

The fees for graduation are the same as in the University of Edinburgh. Matriculation fee, including all dues, for the winter and summer sessions, £1; summer session alone, 10*s.*

Candidates who commenced their medical studies before November, 1861, are entitled to appear for examination for the degree of M.D. after four years' study, one of which must have been in the University of Aberdeen.

Besides the Royal Infirmary, students have the opportunity of attending the following institutions: General Fever Hospital; Sick Children's Hospital; General Dispensary, and Lying-in and Vaccine Institutions daily; Royal Lunatic Asylum; Eye Institution, in which is given clinical instruction on Diseases of the Eye, and on the application of the Ophthalmoscope for their diagnosis.

A diploma in Public Health is granted by the University to graduates in Medicine of a University in the United Kingdom only, after a special examination. The diploma can be entered on the Register of the General Medical Council.

Application for further information should be addressed to the Dean of the Medical Faculty.

The degrees of B.Sc. and D.Sc. are granted, after examination, in one of several specified departments of Science, to be selected by the candidate. For regulations apply to the Secretary of Science Department.

UNIVERSITY OF ST. ANDREWS.

Two degrees in Medicine are granted—namely, Bachelor of Medicine and Master in Surgery (M.B., C.M.), and Doctor of Medicine (M.D.). The curricula for these degrees, and the regulations under which they are conferred, differ from those of the University of Edinburgh only in the particulars noticed below.

The degree of *Doctor of Medicine* may be conferred by the University of St. Andrews on any registered medical practitioner above the age of forty years whose professional position and experience are such as, in the estimation of the University, to entitle him to that degree, and who shall, on examination, satisfy the medical examiners of the sufficiency of his professional knowledge; provided always that degrees will not be conferred under this section on a greater number than ten in any one year. The examinations are held yearly about the middle of April. Candidates must lodge with the Dean of the Medical Faculty the following certificates, along with application for admission to examination:—1. A certificate of age, being a baptismal certificate or an affidavit. 2. Holograph certificates from at least three medical men of acknowledged reputation in the medical profession or in the medical schools, recommending the candidate to the Senatus for the degree, and testifying to his professional skill and position. 3. A portion of the graduation fee (viz., £10 10*s.*), which shall be forfeited should the candidate fail to appear to graduate at the time appointed. A satisfactory examination, written and *vivâ voce*, must be passed in the following departments—viz., Materia Medica and General Therapeutics, Medical Jurisprudence, Practice of Medicine and Pathology, Surgery, Midwifery and Diseases of Women and Children.

No one will be received as a candidate for the degree of *Bachelor of Medicine and Master in Surgery* unless two years at least of his four years of medical and surgical study shall have been in one or more of the following universities or colleges—viz., the Universities of St. Andrews, Glasgow, Aberdeen, Edinburgh, Oxford and Cambridge; Trinity College, Dublin; Queen's College, Belfast; Queen's College, Cork; and Queen's College, Galway.

Subject always to the condition here specified, the studies for candidates for the degrees of Bachelor of Medicine and Mastery in Surgery will be under the following regulations: The remaining years of medical and surgical study may be either in one or more of the universities and colleges above specified, or in the hospital schools of London, or in the school of the College of Surgeons of Dublin, or under such private teachers of medicine as may from time to time receive recognition from the University Court. Attendance during at least six winter months on the Medical or Surgical practice of a general hospital which accommodates at least eighty patients, and during the same period on a course of Practical Anatomy, may be reckoned as one of such remaining years.

Every candidate for examination for the degree of M.B. and C.M. is required to lodge a declaration of age, a statement of his course of study, his inaugural dissertation and all his certificates with the Dean of the Medical Faculty, on or before the 25th of March in each year.

UNIVERSITY OF DUBLIN (TRINITY COLLEGE).

Matriculation.—All students in the School of Physic intending to practise Physic must be matriculated, for which a fee of 5*s.* is payable. No student can be admitted for the winter course after Nov. 25th.

Previous Medical Examination.—Candidates for degrees in Medicine, Surgery and Midwifery are required to pass an examination in Physics, Chemistry, Botany, Comparative Anatomy, Descriptive Anatomy and Institutes of Medicine (Practical Histology and Physiology) previously to their degree examination.

Bachelor in Medicine.—A candidate for this degree must be a graduate in Arts, and may obtain the degree of Bachelor in Medicine at the same Commencements as that at which he receives his degree of B.A., or at any subsequent Commencements. The medical education of a Bachelor in Medicine is of five years' duration, and comprises attendance on a single course of each of the following lectures:—Anatomy, Practical Anatomy, Chemistry, Materia Medica and Pharmacy, Physiology (two courses), Practice of Medicine, Botany, Medical Jurisprudence and Hygiene, Pathology, Heat, Electricity, Magnetism, Light and Sound, Zoology, three courses of nine months' attendance on the Clinical Lectures of Sir Patrick Dun's or other metropolitan hospital recognised by the Board of Trinity College. Six months' Dissections, three months' Laboratory Instruction in Chemistry, three months' Practical Histology, three months' study of Mental Diseases, and one month's instruction in Vaccination are required. Any of the above-named courses may be attended at any medical school in Dublin recognised by the Provost and Senior Fellows. Fee for the *Liceat ad Examinandum*, £5; for the M.B. degree, £11.

Doctor in Medicine.—A Doctor in Medicine must be M.B. of at least three years' standing, or have been qualified to take the degree of M.B. for three years, and must read a thesis or undergo an examination before the Regius Professor of Physic, in accordance with the rules and statutes of the University. Total amount of fees for this degree, £13.

Bachelor in Surgery.—A Bachelor in Surgery must be a Bachelor in Arts, and have spent five years in the study of Surgery and Anatomy. He must also pass a public examination in the Hall before the Professors of the School of Physic, having previously completed the prescribed curriculum of study, which includes the following additions to the courses named above for the M.B.:—Theory of Surgery, Operative Surgery, Two Courses of Dissections, Ophthalmic Surgery.[9] Candidates are required to perform surgical operations on the dead subject. Fee for the *Liceat ad Examinandum*, £5; for the degree of Bachelor in Surgery, £5.

Master in Surgery.—A Master in Surgery must be a Bachelor in Surgery of the University of Dublin, of not less than three years' standing, and must produce satisfactory evidence of having been engaged for not less than two years from the date of his registration in the study, or study and practice, of his profession. He must then pass an examination in the following subjects:—1. Clinical Surgery. 2. Operative Surgery. 3. Surgical Pathology. 4. Surgery. 5. Surgical Anatomy (on the dead subject) and one of the following optional subjects:—1. Surgery in one of its recognised branches—viz., Ophthalmic and Aural, Gynæcological, and Dental. 2. Mental Disease. 3. Medical Jurisprudence and Hygiene. 4. Advanced Anatomy and Physiology. 5. Comparative Anatomy. Fee for the degree of Master in Surgery, £11.

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[9] Students in the School of Physic who matriculated before June 22nd, 1872, may obtain the degree of Master in Surgery according to the regulations in force previously to the creation of the degree of Bachelor in Surgery.

Bachelor in Obstetric Science.—The candidate for the B.A.O. Examination must be a Bachelor in Arts, having previously completed the prescribed curriculum of study. The curriculum comprises the following, in addition to the complete course for the M.B.:—Theory and Practice of Midwifery, one course (winter); Practical Midwifery, including Clinical Lectures, six months. The candidate is then required to pass an Examination in Practical Midwifery, Gynæcology and Obstetrical Anatomy. Fee for the degree of Bachelor in Obstetric Science, £1. There is no *Liceat* fee.

Master in Obstetric Science.—A Master in Obstetric Science must have passed the M.B. and B.Ch. examinations, and produce a certificate of having attended a summer course in Obstetric Medicine and Surgery.[10] He is then required to pass an examination in the following subjects:—1. Practice of Midwifery. 2. Gynæcology. 3. Anatomy of Female Pelvis and Elementary Embryology. 4. Clinical Gynæcology. Fee for the degree of Master in Obstetric Science, £5.

University Diplomas.—Candidates for the diplomas in Medicine, Surgery or Obstetric Science must be matriculated in Medicine, and must have completed two years in Arts and four years in Medical Studies.

Diploma in Medicine.—The Medical Course and Examination necessary for the diploma in Medicine are the same as for the degree of M.B., except that the candidate is not required to attend the Lectures on Botany and Comparative Anatomy, nor to pass the previous medical examination in those subjects. A diplomate in Medicine, on completing his course in Arts and proceeding to the degree of B.A., may become a Bachelor in Medicine by attending the Lectures on Botany and Comparative Anatomy, passing the previous medical examination in those subjects, and paying the degree fees. Fee for the *Liceat ad Examinandum*, £5. Fee for the diploma in Medicine, £5.

Diploma in Surgery.—The Surgical Course and Examination necessary for the diploma in Surgery are the same as for the degree of Bachelor in Surgery. Fee for the *Liceat ad Examinandum*, £5. Fee for the diploma in Surgery, £5.

Diploma in Obstetric Medicine.—The Course and Examination for the diploma in Obstetric Science are the same as that for the Bachelor in Obstetric Science. Fee for the diploma in Obstetric Science, £1.

N.B.—Each candidate having completed the prescribed courses of study, passed the requisite qualifying examinations in Medicine, Surgery and Midwifery, and having conferred on him the corresponding degrees, will obtain from the Senior Proctor a diploma entitling him to be entered on the Register of Medical Practitioners under the Medical Act, 1886.

ROYAL UNIVERSITY OF IRELAND.

All Degrees, Honours, Exhibitions, Prizes and Scholarships in this University are open to students of either sex.

Candidates for any degree in this University must have passed the Matriculation Examination. Students from other universities and colleges are included in this rule.

The following degrees &c. are conferred by the University in this Faculty:—Bachelor of Medicine, Doctor of Medicine, Bachelor of Surgery, Master of Surgery, Bachelor of Obstetrics, Master of Obstetrics; in Sanitary Science, a special diploma; in Mental Disease, a special diploma.

The Medical Examinations, except that for the diploma in Sanitary Science, will be held twice yearly—viz., in April and in October. The examination for the diploma in Sanitary Science will be held in July.

The course for degrees in Medicine &c. is of at least five years' duration.

The First Examination in Medicine.—Students may not be admitted to this examination until the lapse of two academical years from the time of their matriculation. They must also have previously passed the First University Examination. The subjects of this examination are Natural Philosophy, Theoretic Chemistry, Zoology and Botany. The examination in each subject will comprise two parts:—1. A written examination. 2. Practical work and oral examination. For Chemistry the practical examination takes place at the close of the second year. Particular weight will be given to the practical part of the examination. Candidates at the First Examination in Medicine who at the First University Examination in Arts did not obtain 30 per cent. of the marks assigned to French or German will be required to present themselves for a qualifying examination in French or German. Failure to obtain 30 per cent. of the marks assigned to either of those languages will involve the loss of the examination.

The Second Examination in Medicine.—Students will be admitted to this examination after the lapse of one academical year from the time of passing the First Examination in Medicine, provided they have completed the first period of the course of medical studies. The subjects for this examination are Anatomy, Physiology and Practical Chemistry.

The Third Examination in Medicine.—Students will be admitted to this examination after the lapse of one academical year from the time of passing the Second Examination in Medicine, provided they have completed the third year of medical studies. The subjects for this examination will be Anatomy, Physiology, and Materia Medica (Pharmacology).

The Examination for the Medical Degrees.—Students will be admitted to this examination after the lapse of one academical year from the time of passing the Third Examination in Medicine, provided they have completed the course of medical studies prescribed for the fourth year. The examination consists of three parts or divisions:—(*a*) Medicine, including Therapeutics and Pathology, Mental Diseases, Medical Jurisprudence and Hygiene. (*b*) Surgery, Theoretical, Clinical, Operative; Surgical Anatomy, with Ophthalmology and Otology. (*c*) Midwifery and Gynæcology with Diseases of Children. Each part of this examination must be passed as a whole. Upon completing satisfactorily his examination in all three divisions the candidate will, in addition to the parchment diplomas recording his admission to the Medical Degrees of M.B., B.Ch. and B.A.O., receive a certificate of having passed a qualifying examination in the subjects of Medicine, Surgery and Midwifery. The fee for this certificate is £10, which must be paid prior to the candidate's admission to the Medical Degrees.

M.D. Degree.—Candidates may be admitted to this degree after the lapse of three academical years from the time of obtaining the degree of M.B. Every candidate will be examined at the bedside, and required to diagnose at least three medical cases, and prescribe treatment, and to write detailed reports on at least two cases to be selected by the examiners and to discuss all the questions arising thereon.

The M.Ch. Degree.—This degree will be conferred only on graduates in Medicine of the University of at least three years' standing. The examination for this degree will comprise Surgical Diseases and Surgery, both theoretical and operative; Surgical Anatomy; Ophthalmology and Otology, and will include—(*a*) a written examination; (*b*) a clinical examination; (*c*) an examination on Surgical Instruments and Appliances; (*d*) an examination in Operative Surgery.

The Mastership in Obstetrics.—This degree will be conferred only on graduates in Medicine of the University of at least three years' standing. The examination will comprise the Theory and Practice of Midwifery and of Diseases of Women and Children and the Use of Instruments and Appliances, and will include—(*a*) a written examination; (*b*) a clinical examination as far as practicable; (*c*) an oral examination, with practical illustrations; (*d*) an examination on Instruments and Appliances.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

The diploma of Member of this College is not now granted apart from the licence of the Royal College of Physicians except to students who commenced their professional studies prior to Oct. 1st, 1884.

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[10] Existing graduates in Medicine of the standing of M.D. are not required to attend this course.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

The licence of this College is no longer granted by itself, except to students who commenced professional study prior to the 1st October, 1884, and consequently it is no longer necessary to publish the Regulations.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGE OF PHYSICIANS OF LONDON AND THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Regulations relating to the several Examinations applicable to Candidates who commenced their Professional Education on or after the 1st of October, 1884.

Any candidate who desires to obtain both the licence of the Royal College of Physicians of London and the diploma of Member of the Royal College of Surgeons of England is required to comply with the following regulations, and to pass the examinations hereinafter set forth.

Professional Examinations.—There are three Professional Examinations, called herein the First Examination, the Second Examination, and the Third or Final Examination, each being partly written, partly oral, and partly practical. These examinations will be held in the months of January, April, July, and October, unless otherwise appointed. Every candidate intending to present himself for examination is required to give notice in writing to Mr. F. G. Hallett, Secretary of the Examining Board, Examination Hall, Victoria Embankment, W.C., fourteen clear days before the day on which the examination commences, transmitting at the same time the required certificates.

The subjects of the First Examination are—Chemistry, Chemical Physics, Materia Medica, Pharmacy, Elementary Anatomy, and Elementary Physiology. A candidate may take this examination in three parts at different times, or he may present himself for the whole at one time. A candidate will be admitted to the examination on Chemistry and Chemical Physics, Materia Medica, and Pharmacy, on producing evidence of having been registered as a medical student by the General Medical Council, and of having received instruction in Chemistry, Materia Medica, and Pharmacy; or he may take Materia Medica and Pharmacy as part of the Second Examination; but he will not be admitted to the examination on Elementary Anatomy and Elementary Physiology earlier than the end of his first winter session at a medical school, or than the completion of his first six months' attendance at a recognised medical school during the ordinary sessions—i.e., exclusive of the months of April, August, and September. A candidate rejected in one part or more of the First Examination will not be admitted to re-examination until after the lapse of a period of not less than three months from the date of rejection, and he will be re-examined in the subject or subjects in which he has been rejected. Any candidate who shall produce satisfactory evidence of having passed an examination for a degree in Medicine on any of the subjects of the first and second parts of this examination conducted at a University in the United Kingdom, in India, or in a British Colony, will be exempt from examination in those subjects in which he has passed.

The fees for admission to the First Examination are as follows: for the whole examination, £10 10*s.*; for re-examination after rejection in either of the parts, £3 3*s.*

The subjects of the Second Examination are Anatomy and Physiology. A candidate is required to present himself for examination in Anatomy and Physiology together until he has reached the required standard to pass in one or other of these subjects; but no candidate will be allowed to pass in one of the subjects without obtaining at the same time at least half the number of marks required to pass in the other subject. A candidate will be admitted to the Second Examination after the lapse of not less than six months from the date of his passing the First Examination, on producing evidence of having completed, subsequently to registration as a medical student, eighteen months of professional study at a recognised medical school or schools, and of having complied with the regulations prescribed in Section I., Clauses 4 and 5. A candidate rejected in either part or in both parts of the Second Examination will not be admitted to re-examination until after the lapse of a period of not less than three months from the date of rejection, and will be re-examined in the subject or subjects in which he has been rejected.

The fees for admission to the Second Examination are as follows: for the whole examination, £10 10*s.*; for re-examination after rejection in either of the two parts, £3 3*s.*

The subjects of the Final Examination are: Medicine, including Therapeutics, Medical Anatomy, and Pathology; Surgery, including Surgical Anatomy and Pathology; Midwifery and Diseases peculiar to Women. A candidate may present himself for examination in these three subjects or parts separately or at one time. A candidate will be admitted to the Third or Final Examination on producing evidence—(1) of being twenty-one years of age; (2) of having passed the Second Examination; and (3) of having studied Medicine, Surgery, and Midwifery, in accordance with the regulations prescribed in Section I., Clauses 2 and 6 to 11. The Colleges do not admit to either part of the Third or Final Examination any candidate (not exempted from registration) whose name has not been entered in the Medical Students' Register at least forty-five months, nor till the expiration of two years after his having passed the Second Examination. A candidate rejected in the Third or Final Examination, or in one or more of the three parts into which he may have divided it, will not be admitted to re-examination until after the lapse of a period of not less than six months from the date of rejection, and he will be re-examined in the subject or subjects in which he previously failed to pass. Any candidate who shall have obtained a Colonial, Indian, or Foreign qualification which entitles him to practise Medicine or Surgery in the country where such qualification has been conferred, after a course of study and examination equivalent to those required by the Regulations of the two Colleges, shall, on production of satisfactory evidence as to age and proficiency in Vaccination, be admissible to the Second and Third Examinations.

The fees for admission to the Third or Final Examination are as follows: for the whole examination, £15 15*s.*; for re-examination after rejection in Medicine, £5 5*s.*; for re-examination after rejection in Surgery, £5 5*s.*; for re-examination after rejection in Midwifery, £3 3*s.*

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH, AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

These Colleges have made arrangements by which, after one series of examinations, held in Edinburgh or in Glasgow, or in Edinburgh and Glasgow, the student may obtain the diplomas of the three Bodies.

The three Bodies grant their Single Licences only to candidates who already possess another and opposite qualification in Medicine or Surgery, as the case may be. Copies of the Regulations for the Single Licence of any of the Bodies may be had on application to the respective Secretaries.

Professional Education.—1. Candidates who commence medical study before Jan. 1st, 1892, must have been engaged in professional study during forty-five months from the date of registration as medical students by the General Medical Council, which period shall include not less than four winter sessions' attendance at a recognised medical school. 2. The candidate must produce certificates or other satisfactory evidence of having attended the following separate and distinct courses of instruction: Anatomy, one course, during at least six months; Practical Anatomy, twelve months; Chemistry, one course, six months; Practical or Analytical Chemistry, one course, three months; Materia Medica, one course, three months; Physiology, one course, six months; Practice of Medicine, one course, six months; Clinical Medicine, nine months; Principles and Practice of Surgery, one course, six months; Clinical Surgery, nine months; Midwifery and the Diseases of Women and Children, one course, three months; Medical Jurisprudence, one course, three months; Pathological Anatomy, one course, three months. The six months' courses delivered in Scotland must consist of not fewer than 100 lectures. The three months' courses must consist of not fewer than fifty lectures. The number of lectures certified as attended at any school not situated in Scotland should not be less than three-fourths of the total number of lectures delivered in a course. 3. The candidate must also produce the following certificates:—(*a*) Of having attended not less than six cases of labour, three of these to be conducted personally under the direct superintendence of the practitioner who signs the certificate, who must be a registered medical practitioner. (*b*) Of having attended, for three months, instruction in Practical Pharmacy; the certificate to be signed by the teacher, who must be a member of the Pharmaceutical Society of Great Britain, or the superintendent of the laboratory of a public hospital or dispensary, or a registered practitioner who dispenses medicines to his patients, or a teacher of a class of Practical Pharmacy. (*c*) Of having attended for twenty-four months the Medical and Surgical practice of a public general hospital containing on an average at least eighty patients available for Clinical instruction and possessing distinct staffs of physicians and surgeons. (*d*) Of having attended for six months (or three months, with three months' hospital clerkship) the practice of a public dispensary specially recognised by any of the above authorities; or the out-patient practice of a recognised general hospital, or of having acted for six months as pupil to a registered practitioner who either holds such a public appointment, or has such opportunities of imparting practical knowledge as shall be satisfactory to the coöperating authorities; this attendance should be made after the student has passed the First and Second Examinations. (*c*) Of having been instructed by a registered medical practitioner in the Theory and Practice of Vaccination, and of having performed operations under the teacher's inspection, during a period of not less than six weeks.

Candidates will be subjected to three Professional Examinations, herein called the First Examination, the Second Examination and the Final Examination, to be conducted at separate times, partly in writing and partly practically and orally.

First Examination.—The First Examination shall embrace the two divisions of (1) Chemistry,[11] (2) Elementary Anatomy,[12] and Histology,[13] and shall take place not sooner than the end of the first year, including the period of a winter and a summer session. For the whole examination taken at one time the sum of £5 5*s.* must be paid to the inspector of certificates not later than 4 P.M. on the Friday preceding it, after which no candidate will be entered. After rejection for re-entry in all subjects, £3 3*s.*; for re-entry after obtaining an absolute pass in one or two subjects, £2 2*s.*; for entering for one division of subjects separately, £3 3*s.*; and for each re-entry after rejection, £2 2*s.* Any candidate who shall produce satisfactory evidence of having passed an equivalent examination in any of the subjects of the first examination before any of the boards specified in the Regulations will be exempt from examination in such subjects.

Second Examination.—The Second Examination shall embrace the three subjects of (1) Anatomy, (2) Physiology, (3) Materia Medica and Pharmacy, each of which shall constitute a division of the examination, and may be entered for separately, and shall not take place before the termination of the summer session of the second year of study, including two winters and two summers. The fees for admission to this examination, payable not later than one week before the day of examination, are as follows:—For the whole examination, £5 5*s.*; after rejection for re-entry in all subjects, £3 3*s.*; for re-entry after obtaining an absolute pass in one or two subjects, £2 2*s.*; for entering for one subject separately, £2 2*s.*; and for each re-entry after rejection, £2 2*s.* Any candidate who shall produce satisfactory evidence of having passed an equivalent examination in any of the subjects of the Second Examination before any of the boards specified in the Regulations will be exempt from examination in such subject or subjects.

Final Examination.—The Final Examination shall embrace the three divisions of—(1) the Principles and Practice of Medicine (including Therapeutics, Medical Anatomy, and Pathology) and Clinical Medicine; (2) the Principles, and Practice of Surgery (including Surgical Anatomy and Surgical Pathology) and Clinical Surgery; (3) Midwifery and Gynæcology, Medical Jurisprudence, and Hygiene (and which may be entered for separately at different times); and shall not take place before the termination of the full period of study. The fees for this examination, payable not later than one week before the examination day, are as follows: For the whole Examination, taken at one time, in the case of candidates who have passed the First and Second Examinations, £15 15*s.*, £10 10*s.* of which shall be returned to unsuccessful candidates. For entering for each of the three divisions of subjects separately, £6 6*s.*, and on re-entry after rejection, £2 2*s.* in respect of each division or part thereof. This rule will also apply to any subsequent rejection. Any candidate admitted to the Final Examination, on the footing of having passed in the subjects of the First and Second Examinations at a recognised board, shall, on entering, pay the full fee of £26 5*s.*

All candidates shall be subjected, in addition to the Written and Oral Examinations, to Practical Clinical Examinations in Medicine and Surgery, which shall include the Examination of Patients, Physical Diagnosis, the Use of the Microscope, Pathology of the Urine, Surgical Appliances, Bandages, Surface Markings &c.

REGULATIONS FOR CANDIDATES COMMENCING STUDY AFTER JANUARY 1ST, 1892.

The courses last for five years; the fifth year should be devoted to clinical work at one or more public hospitals or dispensaries. Six months of the fifth year may be passed by the student as a pupil to a registered practitioner possessing such opportunities of imparting practical knowledge as may be deemed satisfactory by the Committee of Management. The student's regularity of attendance in the wards and out-patient departments of the hospitals and at the post-mortem examinations should be duly ascertained and noted on the certificate.

Candidates shall be subjected to four Professional Examinations: the First Examination, the Second Examination, the Third Examination and the Final Examination, to be conducted at separate times, partly in writing and partly practically and orally. The necessary schedule and certificates must be lodged, and the fees for these respective Examinations paid, at the period of entering for the earliest of them. In the event of failure the fee paid for any subsequent Examination from which a candidate had been precluded will be returned to the candidate. Candidates may enter for all the subjects of an Examination at one period, or may enter for and pass in any division of subjects thereof. A candidate may be exempted from Examination in any subject of the First, Second, or Third Examinations, on the production of a certificate proving that he has passed an equivalent Examination before any of the recognised Boards, such certificate specifying the subjects of Examination. A candidate admitted to any Examination on the footing of having passed in the subjects of the preceding Examination or Examinations at another Board shall pay the fees exigible for such preceding Examination or Examinations, in addition to the fee of the Examination for which he enters.

First Examination.—The First Examination shall embrace the following divisions of subjects—(1) Physics, (2) Chemistry, (3) Elementary Biology. The fees payable for admission to the First Examination shall be—for the whole Examination, £6.

Second Examination.—The Second Examination shall embrace the following subjects:—Elementary Anatomy and Physiology, including Histology; and candidates may be admitted to this Examination at the end of the second year. The fees payable for admission to the Second Examination shall be—for the whole Examination, £6.

Third Examination.—The Third Examination shall embrace the following divisions of subjects:—(1) Advanced Anatomy, (2) Pathology, (3) Materia Medica and Pharmacy. The fees payable for admission to the Third Examination shall be—for the whole Examination, £6.

Final Examination.—The Final Examination shall not be passed earlier than the end of the fifth year of study, and shall embrace the following divisions of subjects:—(1) Medicine, including Therapeutics, Medical Anatomy, and Clinical Medicine; (2) Surgery, including Surgical Anatomy, Clinical Surgery, and Diseases and injuries of the Eye; (3) Midwifery and Diseases of Women and of New-born Children; and

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[11] The examination in Chemistry shall embrace the following particulars: Chemical Physics (meaning thereby *Heat, Light,* and *Electricity*); the principal Non-Metallic and Metallic Elements, and their more common combinations; also the leading Alcohols, Organic Acids, Ethers, Carbo-hydrates and Alkaloids. The candidate will also be examined practically in Testing.

[12] Elementary Anatomy shall embrace: Anatomy of the Bones and Joints of the whole body and of the Muscles, chief Bloodvessels, and Nerves of the Upper and Lower Extremities.

[13] *Histology will be held to include a knowledge and recognition of* the morphological elements and structure of Skin, Bone, Cartilage, Fibrous Tissue, Hair, Nails, Teeth, Blood, Muscle, Nervous Tissue and the appearance and distribution of all the different forms of Epithelium, along with a general knowledge of the properties of cells. The Examination on this subject will be practical and oral.

(4) Medical Jurisprudence and Hygiene. All candidates shall be subjected. in addition to the Written and Oral Examinations, to Practical Clinical Examinations in Medicine and Surgery, which shall include the Examination of Patients, Physical Diagnosis, the use of the Microscope, Pathology of the Urine, Surgical Appliances, Bandages, Surface markings, &c. The fees payable to the Final Examination shall be,—for the whole Examination, £12, for re-entry in all subjects after rejection, £6: On entering for each division of subjects separately, £4, on re-entry in each division after rejection, £2.

There are six periods of Examination annually, four in Edinburgh and two in Glasgow, and candidates may present themselves at either examining centre irrespective of the place of the previous examination. The Registrar in Edinburgh is Mr. J. Robertson, 1, George-square; and the Registrar in Glasgow, Mr. A. Duncan, 242, St. Vincent-street, to whom fees and certificates must be sent.

ROYAL COLLEGE OF PHYSICIANS AND ROYAL COLLEGE OF SURGEONS IN IRELAND.

Two sets of regulations are at present in force, under which examinations take place for the conjoint diploma of these bodies. The older regulations, under which students who commenced their studies before Oct. 1st, 1891, may be examined, have appeared in our Students' Number in previous years, and will be found on pp. 477 and 478 of our second volume of 1888. The following regulations are obligatory on all students commencing on or after the date already mentioned:—

PRELIMINARY EXAMINATION AND REGISTRATION.

Every candidate for the Conjoint Examinations of the Colleges shall produce evidence—(*a*) of having, before entering on medical studies, passed a Preliminary Examination in general education recognised by the General Medical Council; and (*b*) of having been registered by that Council as a Student in Medicine. Each candidate before receiving his diplomas must produce a registrar's certificate or other satisfactory evidence that he has attained the age of twenty-one years.

Preliminary Examination.—The subjects for examination are identical with those prescribed for the Preliminary Examination by the General Council of Medical Education and Registration, except that it includes the additional subject of Physics, which may be passed at the Preliminary Examination or at a subsequent Supplemental Examination, at an extra fee of £1 1*s.* In no case can Physics be deferred to the First Professional Examination.

PROFESSIONAL EXAMINATIONS.

Every candidate is required to pass four Professional Examinations, one at the end of each year of his professional studies. No candidate shall be admitted to the Final or Qualifying Examination within three months of his rejection at the Final or Qualifying Examination by any other licensing body. All examinations shall be conducted as far as possible by demonstration of objects placed before the candidates.

First Professional Examination.—Every candidate is required, before admission to the First Professional Examination, to produce evidence—(1) of having passed in the subjects of the Preliminary Examination, including Physics; (2) of having been registered as a medical student by the General Medical Council; and (3) of having attended in winter a course of (*a*) lectures on Practical Anatomy, (*b*) Demonstrations and Dissections, and (*c*) lectures on Theoretical Chemistry, (4) Practical Chemistry, three months' summer course, (5) Practical Pharmacy—(1) evidence of attendance for three months in the Compounding Department of a Clinical Hospital, which hospital shall have satisfied the Committee of Management that its means of instruction are sufficient, and shall return to the Committee the names of its students at the commencement of the course, together with a record of their attendance at its close; or (2) evidence of attendance on a course of Practical Pharmacy in a recognised Medical School, the course to consist of not less than twenty demonstrations; or (3) evidence of having served a full apprenticeship of three years, or of having acted as paid assistant for not less than one year in the establishment of a Licentiate Apothecary or of a registered Pharmaceutical Chemist.[14] The fee for this examination is £15 15*s.* The subjects of the First Professional Examination are the following:—1. Chemistry: Elementary Chemistry—Inorganic and Organic, as found in Roscoe's Lessons on Elementary Chemistry—with a practical examination in the Laboratory. 2. Anatomy: Bones, with attachments of Muscles and Ligaments—Joints. 3. Pharmacy: Practical Pharmacy, Dispensing of Drugs, Methods of Administration of Medicines, Reading of Prescriptions.

Second Professional Examination.—Every candidate is required, before admission to the Second Professional Examination, to produce evidence of having passed the First Professional Examination; also certificates of having, in his second or a later year of professional study, attended—(1) A Medico-Chirurgical Hospital for nine months, together with evidence of having taken notes to the satisfaction of the physicians or surgeons in charge of the cases, and certified under their hands, of at least three Medical cases and three Surgical cases in the wards of a recognised Medico-Chirurgical Hospital. (2) Courses of Lectures as follow:—Winter courses: Practical Anatomy; Demonstrations and Dissections. Summer Courses (three months): Histology; Materia Medica. The fee for this examination is £10 10*s.* The subjects of the Second Professional Examination are the following—1. Anatomy: The Anatomy of the whole Human Body. 2. Histology 3 Hospital Practice: Methods of Physical Diagnosis; Application of Urinary Tests; General Principles of the Treatment of Fractures, of Dislocations of Wounds and of Hæmorrhages; Bandaging; General Principles of Case-taking. 4 Physiology: Circulation; Respiration; Digestion. 5. Materia Medica Candidates are examined on three separate days.

Third Professional Examination.—Every candidate is required, before admission to the Third Professional Examination, to produce evidence of having passed the Second Professional Examination; also certificates of having in his third, or a later, year of professional study attended—(1) A Medico-Chirurgical Hospital 'for nine months, or acted for six months as resident pupil, together with evidence of having taken notes to the satisfaction of the physicians and surgeons in charge of the cases, and certified under their hands, of at least three Medical cases and three Surgical cases in the wards of a recognised Medico-Chirurgical Hospital. (2) Courses of Lectures as follow:—Winter courses: Demonstrations and Dissections; Medicine; Surgery; Physiology. Summer course (three months): Medical Jurisprudence. The fee for this examination is £9 9*s.* The subjects for the Third Professional Examination are the following:—1. Anatomy: Surgical Anatomy. 2. Surgery: Surgery as in the Second Professional Examination; also Inflammation, with its varieties and consequences; Fractures; Dislocations; Injuries, mechanical, chemical, physical—their immediate and remote effects; Hernia; Surgical Diseases of Bloodvessels; Diseases of Bones; Diseases of Joints; Pyæmia; Septicæmia. 3. Medicine: Medicine as in the Second Professional Examination; also Diseases of the Heart and Circulatory System. of the Respiratory Apparatus, of the Abdominal Cavity, of the Skin; the Exanthema; and the Continued Fevers. 4. Physiology.

Fourth or Final Professional Examination.—Every candidate is required before admission to the Final Examination to produce evidence—(1) of having passed the Third Professional Examination; (2) of having in his fourth or a later year of professional study (*a*) attended a Medico-Chirurgical Hospital for nine months as extern pupil, or acted for six months as resident pupil, unless a certificate to that effect has been accepted in the third year; (*b*)[15] a winter course of lectures on Midwifery; Certificates will also be required—(1) Of having attended a recognised midwifery hospital or maternity for six months in the winter or summer of the fourth year, with evidence of having been present at thirty labours. (2) Of having for not less than three months, in either the third or fourth year, studied fever in a recognised clinical hospital containing fever wards, and recorded from daily personal observation at least five cases of fever to the satisfaction of the attending clinical physician, as attested by his signature. For the purposes of this regulation the word "fever" is held to include the following diseases only—viz., typhus, typhoid or enteric fever, scarlet fever, small-pox and measles. (3) Of having attended a course of Operative Surgery in the summer session of either the third or the fourth year. (4) Of having attended, at a recognised ophthalmic and aural hospital or at a recognised ophthalmic and aural department of a general hospital, clinical lectures on Ophthalmic and Aural Surgery during a period of three months. The fee for this examination is £6 6*s.* The subjects for the Fourth or Final Examination are the following—1. Medicine. 2. Surgery. 3. Therapeutics. 4. Pathology. 5. Midwifery and Diseases peculiar to Women. 6. Forensic Medicine in references to Medicine, Surgery and Midwifery; Hygiene. 7. Ophthalmic and Aural Surgery.[16] Candidates may present themselves for examination in *all* the subjects of the Final Examination at the *same* term; or, at one term, in Medicine, including Therapeutics and Pathology and Clinical Medicine; at a second term, in Surgery, including Therapeutics and Pathology, Ophthalmic and Aural Surgery, Clinical Surgery and Operations; at a third term, Midwifery, Gynæcology, Forensic Medicine and Hygiene. Candidates must pay the full fee before being admitted to any part of the examination. Candidates may take the groups in any order they please. No candidate will receive any diploma till the entire examination is completed.

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[14] Licentiate Apothecaries and Licentiates of the Pharmaceutical Societies of Great Britain and Ireland are exempt from attendance on Practical Pharmacy.

[15] On and after July 1st, 1891, a certificate of having attended a course of lectures on Pathology will be required in addition to the above-named lectures.

SOCIETY OF APOTHECARIES OF LONDON.

Every student purposing to study Medicine must previously pass a Preliminary Examination in Arts qualifying for registration as medical student.

The examination to be passed for the Diploma in Medicine, Surgery and Midwifery, which is registrable under the provisions of the Medical Act, 1886, are Primary and Final, all being written, oral and practical. The Primary Examinations are held quarterly on the first Wednesday and on the Monday and Thursday of the same week in the months of January, April, July and October. The Final Examinations are held monthly, and consist of—(1) the examination in Surgery on the second Wednesday and following days; (2) the examination in Medicine and in Midwifery on the third Wednesday and on the Monday and Thursday of the same week. The course of medical study must extend over four years, and not less than three winter and two summer sessions must be passed at a recognised hospital and school of medicine. Candidates intending to present themselves for examination must give fourteen days' notice. A form for the purpose will be sent on application. The fee must be forwarded at the same time, with all required certificates, to the secretary. The entire fee for the examinations is £10 10*s.*, which in the event of failure is not returned. A fee of £3 3*s.* is required for every re-examination.

The course of study required to qualify for the Primary Examinations is as follows:—Lectures on Chemistry and Chemical Physics, not less than six months; Practical Chemistry, three months; Materia Medica, three months; Pharmacy and Dispensing, three months, instruction in which must be given by a registered medical practitioner; by a member of the Pharmaceutical Society; or in a public hospital, infirmary, or dispensary. Evidence of having received instruction in these subjects before registration as medical students will be received. The first of the Primary Examinations may be passed at any period after registration. The second includes Anatomy, Physiology, and Histology; to qualify for this examination the candidate must have received instruction in Anatomy, not less than six months; Practical Anatomy with Demonstrations, twelve months; Physiology, six months; Histology with Demonstrations, three months. Candidates will be excused any or all of the subjects of the Primary on producing evidence that they have passed equivalent examinations before an examining body recognised by the Medical Council. Both examinations of the Primary may be passed the same evening.

To qualify for the Final Examinations the following course of study must be observed: Hospital Practice, Surgical and Medical, with Post-mortem Examinations, not less than three winter and two summer sessions. No hospital is recognised for this purpose which is not in connexion with an established medical school. Lectures on the Principles and Practice of Surgery, six months; Practical Surgery, three months; Clinical Surgical Lectures, nine months; Surgical Dresser, three months; Lectures on the Principles and Practice of Medicine, six months; Pathology, three months; Clinical Medical Lectures, nine months; Medical Clinical Clerk, three months; Forensic Medicine, Hygiene, and Insanity, three months; Lectures on Obstetric Medicine, including Gynæcology, three months; Clinical Instruction in the same, three months; a Course of Practical Midwifery; attendance on Twenty Midwifery Cases. The offices of Dresser and Clinical Clerk may be discharged at a hospital, infirmary, or dispensary where sufficient opportunities are afforded for the acquirement of practical knowledge.

The following regulations will apply to students who were registered on or subsequent to January 1st, 1892:—

The examinations are: primary, held quarterly; intermediate, held monthly; and final, held monthly.

The Primary Examination consists of two parts.

Part I. includes Elementary Biology. Chemistry; the Principles of the Science which bear on the study of Medicine. Chemical Physics, including the Elementary Mechanics of solids and fluids; Heat, Light, and Electricity. Practical Chemistry. Materia Medica, including the Botany of the Pharmacopœia. Pharmacy and Prescriptions. Part II. includes Anatomy, Physiology and Histology. The Intermediate Examination also consists of two parts, the first of which includes the Principles and Practice of Surgery, Surgical Pathology and Surgical Anatomy. The second part includes (*a*) the Principles and Practice of Medicine, including Therapeutics and Pharmacology. Pathology and Morbid Histology; (*b*) Forensic Medicine, Hygiene, Theory and Practice of Vaccination, and Mental Diseases. The Final Examination consists of three parts. Part I. includes an Examination of Surgical Cases, Operative Manipulation and Surgical Anatomy, and Instruments and Appliances. Part II. includes an Examination of Medical Cases and Medical Anatomy. Part III. includes: Midwifery, Gynæcology and Diseases of New-born Children, and Obstetric Instruments and Appliances. This examination cannot be passed before the end of the fifth year.

The examination for a Certificate to act as an Assistant in Compounding and Dispensing Medicines is held on the fourth Wednesday of every month, and will be as follows: In Translating and Dispensing Prescriptions; in the British Pharmacopœia; in Materia Medica and Botany; in Pharmacy and Pharmaceutic Chemistry. A week's notice must be given, with the fee of 2 guineas.

Prizes.—A Gold Medal and a Silver Medal are given annually by the Society for proficiency in Materia Medica and Pharmaceutic Chemistry.

A Gold and a Silver Medal are also given for proficiency in Botany. The examination will take place in the month of June. Female candidates can compete.

Due notice of these examinations will be given in the medical journals.

Tickets of admission to the Lectures on Botany, given by J. G. Baker, Esq., F.R.S., F.L.S., of Kew, at the Society's Garden at Chelsea, during the months of May, June, and July, can be had on application.

Attendance is given daily at the Hall of the Society, Blackfriars, E.C., from 10 to 4 o'clock, Saturdays excepted.

ROYAL COLLEGE OF SURGEONS IN IRELAND AND THE APOTHECARIES' HALL OF IRELAND.

Every candidate for the Conjoint Diplomas is required to pass a Preliminary Examination and four Professional Examinations.

First Professional Examination.—Candidates will be required, before admission to the First Professional Examination, to produce evidence—1. Of having been registered by the Medical Council as medical students at least nine months before examination. 2. Of having attended (*a*) Practical Anatomy, (*b*) Chemistry, (*c*) Demonstrations and Dissections, (*d*) Practical Chemistry, (*e*) Physics, (*f*) Practical Pharmacy, for three months in the Compounding Department of a Clinical Hospital, or a School of Pharmacy, or in the Compounding Establishment of a Licentiate Apothecary.

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[16] Students who commenced study before July, 1879, are exempt from both the certificate for study and the special Ophthalmic Examination, but are liable to be examined by the surgical examiners in Ophthalmic Surgery. Those who commenced before February, 1882, are exempt from the special examination, on producing the certificate of three months' clinical ophthalmology required before that date. Those who commenced after February, 1882, must pass the special examination.

The fee for this examination is £12 12*s.* Candidates will be examined on Physics, Chemistry, and Anatomy (Osteology).

Second Professional Examination.—Candidates must produce evidence of having passed the First Professional Examination; also certificates of having subsequently attended—(*a*) a Medico-Chirurgical Hospital for nine months, and of having taken notes of at least three Medical cases and three Surgical cases, or a certificate of Clinical Clerkship; (*b*) the following courses of Lectures: (1) Demonstrations and Dissections; (2) Physiology; (3) Surgery, winter courses, six months; (4) Materia Medica; (5) Practical Physiology, including Histology, summer courses, three months. The fee for this examination is £7 7*s.* Candidates will be examined in Anatomy, Physiology, Materia Medica, and Pharmacy.

Third Professional Examination.—Candidates must produce evidence of having passed the Second Professional Examination; also certificates of having subsequently attended—(*a*) a Medico-Chirurgical Hospital for six months as resident pupil, or for nine months as extern pupil, and, in the latter case, notes of at least three Medical and three Surgical cases, or of having acted as Clinical Clerk at any period; (*b*) the following courses of Lectures: (1) Demonstrations and Dissections; (2) Medicine; (3) Midwifery and Diseases peculiar to Women, in winter courses (may be deferred to the fourth year); (4) Pathology;[17] (5) Medical Jurisprudence, Forensic Medicine, and Hygiene, in summer course. The fee for this examination is £7 7*s.* Candidates will be examined in Anatomy, Surgery, Medicine, and Medical and Surgical Pathology.

Fourth Professional Examination.—The candidate must produce evidence—(1) Of having been registered as a medical student by the Medical Council at least forty-five months previously; (2) of having passed the Third Professional Examination; (3) of having subsequently attended—(*a*) a Medico-Chirurgical Hospital for nine months as extern pupil, or six months as resident pupil; (*b*) Lectures on Midwifery, a winter course (unless taken in the third year); (*c*) a recognised Midwifery Hospital, or Maternity, for six months in the winter or summer of either the third or the fourth year, with evidence of having been present at thirty labours; (*d*) of three months' study of Fever in a Clinical Hospital containing fever wards, and of having taken notes of at least five cases of fever (attendance at a fever hospital will not be recognised if concurrent with that on Practical Midwifery); (*e*) Operative Surgery in the summer session of either the third or fourth year; (*f*) Clinical Lectures in Ophthalmic and Aural Surgery (three months) at a recognised Ophthalmic Hospital, or at an Ophthalmic Department of a General Hospital. The fee for this examination is £7 7*s.* Candidates will be examined in Medicine, Therapeutics, Surgery, Midwifery and Diseases peculiar to Women, Ophthalmic and Aural Surgery, and Forensic Medicine and Hygiene.

UNIVERSITY OF BRUSSELS.

British and other practitioners holding proper medical and surgical qualifications are admissible for the Doctorate of the University of Brussels, without any further curriculum. It is necessary, however, that all candidates should leave their diplomas with the Registrar of the University prior to the examination, and no one will be admitted until this condition has been complied with. The fees are—For inscription of name, £8 12*s.*; for examination, £13; for legalisation of diploma, 8*s.*—£22. The unsuccessful candidates may present themselves again three months after rejection, on paying one-half of the examination fees. Candidates who have paid in advance the fees for the three tests, and are unsuccessful in the first, recover the fees paid for the second and third examinations; those who fail in the second recover the fees paid for the third examination. The examination consists of three tests, viz.—1st Doctorate: Medicine; Special and General Pathology and Pathological Anatomy with the Microscope; General Therapeutics; Mental Diseases; Diseases of Women and Children. 2nd Doctorate: Surgery; Surgical Pathology; Ophthalmology; Midwifery; Hygiene; Medical Jurisprudence (not including

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[17] The certificate in Pathology will not be required until further notice.

TABULATED STATEMENT OF EXAMINATION OR GRADUATION FEES PAYABLE TO THE VARIOUS BODIES IN THE UNITED KINGDOM GRANTING REGISTRABLE QUALIFICATIONS.

Name of Examining Body.	Matriculation or other Entrance Examination.	Preliminary Scientific or First Prof. Examination.	Intermediate Scientific or Equivalent Examination.	First Degree or other Registrable Qualification.	Second Degree or Equivalent Registrable Qualification.
UNIVERSITY of OXFORD	About £5 (including fees to University and College).	....	About £12 (including fees to University and College).		
UNIVERSITY of CAMBRIDGE	£5 (not including College fees, which vary.	....	....	M.B., £2 (in addition to £7 for B.A.)	M.D., £10.
UNIVERSITY of LONDON	£2 0 0	£5 0 0	£5 0 0	M.B. or B.S., £5.	M.D. or M.S., £5.
UNIVERSITY of DURHAM	£2 0 0	....	....	L.M., £3; M.B. or B.S., £6.	M.D. or M.S., £6.
VICTORIA UNIVERSITY	£2 0 0	....	£1 0 0	....	....
UNIVERSITY of EDINBURGH	£1 0 0	£5 5 0	£5 5 0	M.B. & C.M., £11 10s.	M.D., £5 5s.
UNIVERSITY of GLASGOW	£1 0 0	....	....	M.B. and C.M., £21.	M.D., £15.
UNIVERSITY of ABERDEEN	£1 0 0	£5 5 0	£5 5 0	M.B. & C.M., £10 10s.	M.D., £5 5s.
UNIVERSITY of ST. ANDREWS ..	£1 0 0	....	....	....	M.D., £52 10s.
UNIVERSITY of DUBLIN (TRINITY COLLEGE).	£0 5 0	....	....	M.B., £16; B.Ch., £10 (in addition to M.B. & B.A. fees); Lic. Med., £10; Lic. Surg., £10; Lic. Obs. Sc., £1.	M.D., £13; M.Ch. £11; M.A.O., £5
ROYAL UNIVERSITY of IRELAND..	£0 10	£1 0 0	£1 0 0	M.B., B.Ch., & B.A.O., £10.	M.D., £5; M.Ch. £5; M.A.O.
ROYAL COLLEGE of PHYSICIANS, LOND., AND ROYAL COLLEGE of SURGEONS, ENG.	....	£10 10 0	£10 10 0	L.R.C.P. & M.R.C.S., £15 15s.	F.R.C.P. F.R.C.S., £15 15s.
ROYAL COLLEGES of PHYSICIANS AND SURGEONS of EDINBURGH and FACULTY of PHYSICIANS and SURGEONS of GLASGOW.	....	£5 5 0	£5 5 0	L.R.C.P.Ed., L.R.C.S.Ed., & L.F.P.S.Glas., £26 5s.	
ROYAL COLLEGE of PHYSICIANS, and ROYAL COLLEGE of SURGEONS, IRELAND.	....	£15 15 0	£5 5 0 and for Third Prof. Exam., £5 5 0	L.K.Q. Coll. Phys., L.R.C.S. Irel., £15 15s.	
SOCIETY of APOTHECARIES, LOND.	....	£4 4 0	....	L.S.A., £6 6s.	
ROYAL COLLEGE of SURGEONS, IRELAND, and APOTHECARIES' HALL, DUBLIN.	....	£12 12 0	£7 7 0 and for Third Professional Examination, £7 7 0	L.R.C.S. Irel., L.A.H. Dub., £7 7s.	

Toxicology). 3rd Doctorate: Clinical Examination in Medicine at the Hospital; Clinical Surgical Examination; Examination in Midwifery, consisting in obstetrical operations on the mannikin (model of pelvis); Examination in Operative Surgery, consisting in some of the usual operations on the dead subject, such as Amputation, Ligature of an Artery, &c.; Regional Anatomy on the Dead Body, with Dissections. Great importance is attached to practical knowledge, but candidates must also prove that they possess positive theoretical science. The examinations which are *vivâ voce* take place on the first Tuesday in November, December, February, May and June. The three examinations may be got through in about a week. Saturday, before 2 P.M., is the most eligible day for arriving, for candidates for whom time is an object. The examinations are conducted in English. There are in England at present about 600 graduates holding this degree.

THE ARMY, NAVY, AND INDIAN MEDICAL SERVICES.

Consequent upon the issue of the Royal Warrant of August, 1891, alterations have taken place in the designations of the departmental rank of the officers of the Army Medical Staff, and medical officers are also now placed, as regards sick leave of absence on full pay, on the same conditions as those laid down for regimental officers. By a subsequent Royal Warrant, dated Nov. 10th, 1891, Art. 1208*b* of the Pay Warrant was revised by inserting the words "an officer of our Medical Staff" after the words "combatant officer," thus giving medical officers an equal title with combatant officers to reckon time on half-pay towards retirement, when the half-pay has been due to ill-health contracted in the performance of military duty. The substantive ranks of officers of the Medical Staff carry precedence and other advantages attaching to the rank indicated by the military portion of it, with such exceptions and within such limits as are laid down in the earlier Warrant.

In the *Gazette* of Aug. 28th, 1891, it was announced that the Queen had been pleased, by Royal Warrant, dated Aug. 7th, 1891, to approve of the following alterations of the designations of the departmental rank of the officers of the Medical Staff now serving as follows:—Surgeons-General, ranking as Majors-General, to be Surgeons-Major-General; Deputy Surgeons-General, ranking as Colonels, to be Surgeons-Colonel; Brigade-Surgeons, ranking as Lieutenant-Colonels, to be Surgeons-Lieutenant-Colonel; Surgeons-Major, ranking as Lieutenant-Colonels, to be Surgeons-Lieutenant-Colonel; Surgeons-Major, ranking as Majors, to be Surgeons-Major; Surgeons, ranking as Captains, to be Surgeons-Captain. The rank of the Director-General of the Army Medical Department is that of Surgeon-Major-General.

[For the text of the Warrant of Aug. 7th for the Medical Staff, *vide* THE LANCET of August 22nd, 1891, page 459 *et seq.*]

Admission into the Army and Indian Medical Services is gained as the result of competitive examination. Under special conditions, the admission may take place by nomination of the Secretary of State for War. Candidates for both services must, before being admitted to examination, possess the double qualification to practise Medicine and Surgery, and be registered under the Medical Act. They are also now required to produce certificates of having acted as a medical clinical clerk for six months, as surgical dresser for another six months, and of having had not less than three months' instruction at an ophthalmic hospital, including a course on errors of refraction. They must also furnish satisfactory certificates of moral character. Candidates for the Army must be between the ages of twenty-one and twenty-eight, in good health, and both parents of unmixed European blood; for the Indian Service, between twenty-two and twenty-eight, of sound bodily health, and natural-born subjects of Her Majesty. Both are examined as to physical fitness by a Board of Medical Officers. These conditions being satisfied, the candidate is admitted to the competitive examination, which is usually held in London twice a year, in the months of February and August. No candidate for the Army Medical Staff will be allowed to compete on more than two occasions. The subjects of examination are divided into *compulsory* and *voluntary*. The former comprise Anatomy and Physiology, Surgery, Medicine, including Therapeutics and the Diseases of Women and Children, Chemistry and Pharmacy, and a practical knowledge of Drugs. The eligibility of the candidate for admission into the service is determined by the result of this part of the examination. The *voluntary* subjects are French, German, Comparative Anatomy, Zoology, Natural Philosophy, Physical Geography, and Botany, with especial reference to Materia Medica, and for the Indian service Hindustani. Although the results of the examination on voluntary subjects do not affect the question of the eligibility of the candidate for a commission, they influence his position on the lists, which is determined by the numbers obtained under the two heads conjointly. After having passed this examination, the successful candidates for both services are sent to the Army Medical School at Netley as "surgeons on probation, receiving a daily pay of 8*s.* and certain allowances, to go through a four months' course of instruction in the special duties required of them in the service. The staff of the school consists of four professors, all of them men of high standing in their special departments. The Professorship of Military Medicine is held by Deputy Surgeon-General Henry Cayley, I.M.S. Surgeon-Lieutenant-Colonel W. F. Stevenson, M.S., is Professor of Military Surgery; Surgeon-Lieutenant-Colonel J. L. Notter, M.D., of Military Hygiene; and Dr. A. E. Wright, of Pathology. To each of these an Army Medical Officer is attached as Assistant Professor. The lectures on Military Surgery include gunshot and other wounds, transport of sick and wounded, duties of army medical officers in the field, on board troopships and transports, recruiting, and other surgical duties incident to military service. Those on Military Medicine treat of tropical and other diseases to which soldiers are exposed in the course of their service, the mortality and invaliding by disease, in peace and war, at home and abroad, management of lunatics under the conditions of military service, &c. The course of Hygiene comprises the examination of water and air, the general principles of diet, with the quality and adulterations of food and beverages, the sanitary requirements of barracks, hospitals, and camps, the clothing, duties, and exercises of the soldier, and the circumstances affecting his health, with the best means of preventing disease, and instruction in the mode of preparing the various statistical and other returns required of the medical officer. The surgeons on probation are detailed for duty in the wards of the hospital, under the Professors and Assistant Professors of Medicine and Surgery. Here they are taught practically the details of the management of patients in a military hospital, the registration of their diseases, the duties of invaliding, the modes of filling up the regulation statistical returns and other service documents. The surgeons on probation are provided with quarters, and are members of the mess at Netley. After having passed through the course of instruction they are examined on the subjects taught in the school, and their position on the list recommended for commissions is determined by the combined results of the competitive and final examinations. At the close of each session five prizes are awarded: the Herbert Prize of £20 to the surgeon on probation who has obtained the highest number of marks at the London and Netley examinations conjointly; the Parkes Memorial Bronze Medal to the one who gains the highest number of marks in the examination on Hygiene at Netley, combined with those given for the answers to a special question set on the same subject; the Martin Memorial Gold Medal to the highest number of marks in the final examination on Military Medicine, with the addition of those gained for a special question connected with it; the Montefiore Gold Medal and £21, awarded in the same manner for Military Surgery; and the Montefiore Second Prize, consisting of works on Military Surgery, to the surgeon on probation who obtains the second highest numbers in this branch.

The Surgeon-Lieutenants of the British Medical Service at the close of the Netley courses of instruction pass on to Aldershot, where they go through a systematic course of instruction in ambulance drill and equitation. The Surgeons of the Indian Medical Service, who do not go to Aldershot, undergo, while at Netley, a special course of instruction in ambulance drill and duties.

Surgeon-Lieutenants, if recommended by the Director-General, Army Medical Department, are promoted to be Surgeon-Captains on completing three years' full pay service.

Surgeon-Captains, if recommended by the Director-General, are promoted to be Surgeon-Majors on completing twelve years' full-pay service, of which three must have been abroad. Before being promoted they will be required to pass an examination. This examination may be taken at any time after their seventh year of service.

The examination in Medicine and Surgery will be held by two gentlemen appointed by the Secretary of State; that in Hygiene by the Professor of Hygiene, Army Medical School, Netley; and that in Regulations, Duties, Military Law &c. by an administrative medical officer, nominated for the purpose by the Director-General.

The examination will embrace the following subjects: *a.* Surgery and Surgical Anatomy. *b.* Medicine and Pathology. *c* Hygiene, within the limits treated of in "Parkes' Practical Hygiene;" also the regulations regarding the sanitation of garrisons, quarters, hospitals &c., as well as of camps and hospitals in the field, and of transports, troop and hospital ships. *d.* Duties of medical officers at home and abroad and at sea, as defined in regulations; also hospital organisation and administration in peace and war, including the transport of sick and wounded by land and sea. *e.* The administration, interior economy, command, and discipline of the Medical Staff Corps, together with a knowledge of the principles of military law and their practical application (unless a certificate of proficiency in military law has been obtained at a garrison class).

A certificate will be required from a recognised teacher of surgery in any medical school, at home or abroad, in which operative surgery is taught, showing that the medical officer has gone satisfactorily through a complete course of operative surgery during the period within which the examination must be taken, and that he is a competent operator.

A report on any subject of a practical professional character, to be selected by the officer himself, and certified to be his own composition and in his own handwriting, will also be required. Considerable importance will be attached to the literary and scientific merits of this report.

The examinations will be conducted by printed questions, which will enter so far into the subject matter of each head selected for examination as to show that the officer's knowledge has been fully tested.

The questions and answers will be forwarded, under a sealed confidential cover, to the Director-General for transmission to the examiners, who will report to the Director-General as to the competence of the officer examined.

Any higher qualification, such as M D, F.R C.S. &c., or any diploma in Hygiene and State Medicine, taken after the date of publication of these regulations, will not exempt surgeons from this examination.

Surgeon-Majors are, if recommended by the Director General Army Medical Department, promoted to be Surgeon-Lieutenant-Colonels on completing twenty years full pay service.

The selection of Surgeons-Lieutenant-Colonel for advancement to the grade of Brigade-Surgeon-Lieutenant-Colonel is made on the grounds of ability and merit, in determining which the following points will be considered:—The officer to be so selected must have been favourably reported on by the several military and departmental officers under whom he may have served, as set forth in their Annual Confidential Reports. He must be physically fit for general service, and have the necessary qualifying foreign and Indian service under existing rules.

A Brigade-Surgeon-Lieutenant Colonel, to be eligible for selection as Surgeon-Colonel, must have served abroad at least ten years, of which three must have been in India. All officers under the rank of Surgeon-Colonel are placed on the retired list at the age of fifty-five, and those of that rank and Surgeon-Major-General at the age of sixty, except that in any particular case in which it may be considered necessary for the interest of the public service, the age of retirement may be extended to sixty-two.

Indian Medical Service.—The alteration of titles of medical officers in the Indian Service, so as to assimilate them to those of the Army Medical Staff, was promulgated in a Royal Warrant dated Dec. 7th, 1891. The articles of this Warrant were ordered to take effect from Aug. 7th, 1891, the date of the Medical Staff Warrant. By this Warrant the ranks of the medical officers in the Indian military forces were declared to be substantive ranks, and to carry with them the same precedence and other advantages as the corresponding ranks in the Army Medical Staff, including command over the medical officers and subordinates, native and European, engaged in hospital service. The function of military command is subject to the same restrictions as in the British service. An important provision of this Warrant is that Surgeon-Lieutenants "shall be promoted" to the rank of Surgeon-Captain on completing three years' full-pay service, Surgeon-Captains to the rank of Surgeon-Major after twelve years' service, and Surgeon-Majors to the rank of Surgeon-Lieutenant-Colonels after twenty years' service. No examination to qualify for promotion is required. All promotions to higher grades are to be given by selection for ability and merit. In case of distinguished service in the field a medical officer may be at once promoted from any rank to the one next above it. The ages for compulsory retirement are the same as those for the Medical Staff.

Surgeons are promoted to Staff Surgeons after twelve years from date of entry, provided they pass the requisite examination; and Staff Surgeons to Fleet Surgeons after twenty years' service if recommended by the Director-General. Deputy Inspectors-General are promoted by selection from the Fleet Surgeons, and Inspectors-General from the Deputy Inspectors-General having three years' foreign, four years' mixed, of which not less than two have been abroad, or five years' home service in such appointments as preclude foreign service, provided they have not refused to go abroad when called upon to do so. Inspectors and Deputy Inspectors-General are retired compulsorily at sixty, and other grades at fifty-five years of age, and all ranks at any time if they have not served for five years. In calculating service for retired pay time on half-pay will be taken as equivalent to one-third service on full-pay.

The following tables, showing the rates of pay and half-pay of the three branches, will probably be acceptable to students who entertain any intention of entering the public service:—

ARMY.

Rank.	*Rates of Pay.*	*Gratuities.*	*With the Rank of*
	Daily.		
Surgeon on probation	£0 8 0	—	—
	Annual.		
Surg.-Lieut. or Surg.-Captain	200 0 0	..	Lieut. or Capt.
Surg.-Capt. aft. 5 years' service	250 0 0	—	Captain
	Daily.		
Surg.-Capt. aft. 10 years' service	0 15 0	£1250[*]	Captain
Surg.-Major or Surg.-Lieut.-Col.	1 0 0	—	Maj. or Lt.-Col.
Surg.-Major or Surg.-Lieut.-Col. aft. 15 years' service	1 2 6	£1500[*]	Maj. or Lt.-Col.
Surg.-Major or Surg.-Lieut.-Col. aft. 18 years' service	—	£2500[*]	Maj. or Lt.-Col.
		Half-pay. [†]	
Surgeon-Lieut-Col.:			
„ aft 20 years' service	1 5 0	£1 0 0	Lieut.-Colonel
„ 25 „	1 7 6	1 2 6	
„ 30 „	—	1 5 0	
Brigade Surgeon Lieut.-Col.	1 10 0	—	Lieut.-Colonel
„ aft. 5 years in rank	1 13 0	—	(but always
„ und. 30 years' service	—	1 7 6	senior to
„ aft. 30 „	—	1 10 0	Surg.-Lieut.-Col.)
Surgeon-Colonel	2 0 0	1 15 0	Colonel
Surgeon-Major-General	2 15 0	2 0 0	Major-General

[*] Applies equally to Surgeon-Lieutenant-Colonel, Surgeon-Major, Surgeon-Captain or Surgeon-Lieutenant, according to periods of service—i.e., ten, fifteen or eighteen years.

[†] Half-pay is also applicable to the ranks junior to Surgeon-Lieutenant-Colonel after twenty years' service, as follows:—

Surg.-Lieut.-Col., Surg.-Major, Surg.-Capt., or Surg.-Lieut.:

	Daily.
Under 5 years' service	£0 6 0
After 5 „ „	0 8 0
After 10 „ „	0 10 0
After 15 „ „	0 12 6

ROYAL NAVY.

Rank.	Daily pay.	Half-pay.	Gratuities and retired pay. Rank.	Gratuities and retired pay. Gratuity.
	£ s. d.	£ s.		
Surgeon	0 11 6	0 6	Surgeon and Staff	
aft. 2 years' f. p. in rank	..	0 7	Surgeon:	
4 ,,	0 13 6	0 8	aft. 8 years' f. p.	£1000
6 ,,	..	0 9	12 ,,	1500
8 ,,	0 15 6	0 10	16 ,,	2250
10 ,,	..	0 11		
Staff-Surgeon:				
on promotion	1 1 0	0 12		
aft. 2 years' f. p. in rank	..	0 13		
4 ,,	1 4 0	0 14		
6 ,,	..	0 15		
Fleet Surgeon:			Fleet-Surgeon.	Daily.
on promotion	1 7 0	0 17	aft. 20 years'	£1 0 0
aft. 2 years' f. p. in rank	..	0 18	24 ,,	1 2 6
4 ,,	1 10 0	0 19	27 ,,	1 5 0
6 ,,	..	1 0	30 ,,	1 10 0
8 ,,	1 13 0	..		
Deputy Inspector-General:				
on promotion	2 2 0	1 5	..	1 15 0
aft. 2 years' f. p. in rank	..	1 7		
4 ,,	..	1 9	—	2 0 0
Inspector-General	2 15 0	1 18		

INDIAN MEDICAL SERVICE.

From date of leaving Netley till embarkation, 10*s.* per diem. Pay and allowances in India.

Rank.	Years' service.	Indian pay and allowances per Mensem.	
		When not holding an appointment carrying higher pay.	
		Rs. a. p.	
Brigade-Surgeon and Surgeon-Major ..	25 and over	883 12 0	
	20 ,,	852 3 7	
,,	15 ,,	677 6 11	
,,	12 ,,	640 14 6	
		A. When not receiving any staff allowance.	B. When receiving staff allowance in addition.
		Rs. a. p.	Rs. a. p.
Surgeon	10 ,,	451 14 5	410 9 5
,, ...	6 ,,	433 10 2	392 5 2
,, ...	5 ,,	335 12 2	304 44 2
,, ...	under 5	317 8 0	286 10 0

METROPOLITAN MEDICAL SCHOOLS HAVING A COMPLETE CURRICULUM.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE.—The clinical practice of the hospital comprises a service of 750 beds, of which 676 are in the hospital at Smithfield and 75 are for convalescent patients at Swanley.

Eight house physicians and ten house surgeons are appointed annually, each of them holding office for one year, and provided with rooms by the hospital authorities. The ophthalmic house surgeon is appointed for six months, and is eligible for re-election for a second term of six months. A midwifery assistant is appointed every six months and an extern midwifery assistant every three months. The senior assistant chloroformist and junior assistant chloroformist are appointed annually, and are provided with rooms. Two qualified assistant electricians are appointed every three months. No fee is paid for any of these appointments, and each receives a salary of £25. The clinical clerks, the obstetric clerks, the clerks to the medical out-patients, the dressers to the surgical in-patients and to the out-patients, and the dressers in the special departments are chosen from the diligent students. All the appointments are now free.

A college is attached to the hospital, in which students can reside, subject to the college regulations.

Foundation and other Prizes.—Two Open Scholarships in Science of the value of £75 each, tenable for one year, will be competed for in September. Candidates must not be more than twenty-five years of age, and must not have entered to the medical or surgical practice of any metropolitan medical school. The subjects of examination are Physics and Chemistry for the one, Physiology and Biology for the other.—Two Junior Open Scholarships, one of £150 and one of £50, in the subjects of the Preliminary Scientifi Examination of the London University, will be competed fo at the same time. Candidates must be under twenty year of age, and must become regular students.—The Jeaffreso Exhibition, of the value of £20, is awarded at entrance afte examination in the subjects of general education. It is no an Open Exhibition.—A Senior Scholarship, £50, in Anatomy Physiology and Chemistry.—Kirke's Scholarship and Gol Medal in Clinical Medicine, value 40 guineas.—Lawrenc Scholarship and Gold Medal, of the value of 40 guinea (founded in 1873 by the family of the late Sir Willia Lawrence)—Two Brackenbury Scholarships in Medicin and Surgery, £30 each.—Four Junior Scholarships in th subjects of study of the first year: 1st, £30; 2nd, £20; 3rd *£25; 4th, £15.*

A prize of £15 for Anatomy has been founded by the lat Mr. Henry Skynner, in memory of his brother; a Scholarshi of £50 confined to Cambridge graduates in Arts, by Mis Shuter in memory of her brother, formerly assistan surgeon to St. Bartholomew's Hospital; and a prize o £10 10*s.* by Sir F. A. Burrows, Bart., in memory of his father Sir George Burrows.

The Medical School Buildings include three large lectur theatres, a large dissecting room, a spacious library (containing 13,000 volumes) a well-appointed museum of anatomy physiology, comparative anatomy, materia medica, botan and pathological anatomy. There are laboratories fo chemistry, physiology, pathology, pharmacology, publi health and biology, giving ample accommodation in ever department.

Instruction in Preliminary Science is given to Universit of London students in chemistry, biology and physic *throughout the year.*

Laboratory Instruction for the D.P.H. is provided durin the second half of the winter and in the summer sessions.

CHARING-CROSS HOSPITAL AND COLLEGE.—Total fees 110 guineas if paid in a single sum on entry, or 121 guineas i paid in five instalments; for Dental students, 54 guineas, o 60 guineas in two equal instalments. General students pa proportionately lower fees, and are admitted withou additional fee to the courses of Clinical Medicine an Surgery and to the practice of the Royal Westminste Ophthalmic Hospital. They alone are entitled to compet for the Scholarships, *Gold Medal and Pereira Prize* excepting the Golding Scholarship of £15, for which Denta students can also compete.

Two Entrance Scholarships, of the value of 100 guinea and 50 guineas respectively, are awarded annually a the *commencement* of *each* winter session after a competitive examination in the following groups of subjects:—(1) English, including Language, Literature, Histor and Geography; (2) Latin and Greek; (3) French an German; (4) Mathematics, including Arithmetic, Algebr and Geometry; and Mechanics, including Statics an Dynamics; (5) Chemistry (Inorganic) and Physics, including Acoustics, Heat and Electricity; and (6) Anima and Vegetable Biology. The value attached to each grou of subjects is 1000 marks. No candidate may offer himself for examination in more than three of the above group of subjects, the selection of the groups being left entirel to the candidate. The Scholarships will be awarded b the School Committee to the two candidates who, on th report of the examiners, have shown the highest degree o excellence; but no Scholarship will be awarded unless, i the opinion *of the examiners, a satisfactory* standard ha been attained. In the first four groups the subjects (a regards extent and the authors selected) will be the sam as those chosen for the Matriculation Examination of th University of London in the June immediately preceding in the fifth and sixth the same as those for the Prelimina Scientific Examination of the same University. Candidates must give notice to the Librarian of their intentio *to compete, and of the groups* in which they offer themselves for examination, on or before Saturday, Sept. 17th 1892 The examination will commence at the School o Monday, Sept. 19th, at 10 A.M. The successful candidate will be required to enter forthwith for their complet medical education at Charing cross Hospital.

A Scholarship of the value of 50 guineas is open t students from the University of Oxford who have passe the First M.B. Examination, and to students of the University of Cambridge who have passed the Second M.B. Exa

The Medical Student's Class Guide.

TABULAR LIST OF THE CLASSES, LECTURERS, AND FEES AT THE LONDON HOSPITALS AND MEDICAL SCHOOLS FOR THE SESSION 1892–93.

LECTURES, &c.	ST. BARTHOL. HOSP. & COLL.			CHARING-CROSS HOSP. & COLL.			ST. GEORGE'S HOSPITAL.		
	LECTURERS.	FEES.		LECTURERS.	FEES.		LECTURERS.	FEES.	
		One Course.	Unlimited.		First Course.	Second Course.		One Course.	Unlimited.
WINTER SESSION.		£ s. d.	£ s. d.		£ s. d.	£ s. d.		£ s. d.	£ s. d.
PHYSIOLOGY	Dr. Klein	9 9 0	...	Dr. Mott	8 8 0	...	Dr. Buckmaster Ditto, *Phys. Chem.*	7 7 0 3 3 0	8 18 6
BIOLOGY	Dr. Shore	7 7 0	...	Mr. C. Mitchell	5 5 0	...	...	...	...
ANATOMY	Mr. Walsham Mr. Bruce Clarke	9 9 0	...	Mr. Boyd	7 7 0	...	Mr. Turner Mr. Ross	7 7 0	8 18 6
ANATOMICAL DEMONSTRATIONS	Messrs. Jessop, Herringham, and Berry	10 10 0	...	Mr. Boyd Mr. Waterhouse	8 8 0	...	Mr. F. C. Kempson Ditto, *Osteology Histology*	... 3 3 0	...
CHEMISTRY	Dr. Russell	7 7 0	...	Mr. Heaton	6 6 0	...	Dr. Rideal	6 6 0	7 17 6
MEDICINE	Sir D. Duckworth Dr. Gee	7 7 0	...	Dr. Bruce	7 7 0	...	Dr. Dickinson and Dr. Whipham	7 7 0	8 18 6
SURGERY	Mr. Willett Mr. Marsh	7 7 0	...	Mr. Bloxam	7 7 0	...	Mr. Pick	7 7 0	8 18 6
HOSPITAL PRACTICE:									
PHYSICIANS...	Dr. Andrew Dr. Church Dr. Gee Sir D. Duckworth Dr. Champneys (*Obstet.*)	3 mths. 13 2 6 6 mths. 19 19 0 12 mths. 26 5 0	36 15 0	Drs. Green, Bruce, and Abercrombie [*To out-patients:* Dr. Lubbock, Dr. Willcocks, Dr. Murray,	3 mths. 5 5 0 6 mths. 7 7 0 12 mths. 10 10 0	Full period 21 0 0	Dr. Dickinson Dr. Whipham Dr. Cavafy Dr. Ewart *Obst. Phys.:* Dr. Dakin	12 mths. 10 10 0 2 years 21 0 0	31 10 0
ASSISTANT-PHYSICIANS ...	Dr. Hensley Dr. Brunton Dr. Norman Moore Dr. S. West	...	...	Dr. Mott *Pract. Midwifery:* Dr. Routh	... 3 3 0	...	Dr. Owen Dr. Penrose	...	...
SURGEONS	Messrs. Smith, Willett, Langton, Marsh, and Butlin	3 mths. 13 2 6 6 mths. 19 19 0	36 15 0	Mr. Bloxam Mr. Morgan Mr. Stanley Boyd	3 mths. 5 5 0 6 mths.	Full period 21 0 0	Mr. Rouse, Mr. Pick, Mr. Haward, Mr. Bennett	12 months 10 10 0	31 10 0
ASSISTANT-SURGEONS... ...	Messrs. Walsham, Cripps, Bruce Clarke, Bowlby, and Lockwood *Ophth.-Surgs.:* Mr. Power Mr. Vernon	12 mths. 26 5 0	...	Mr. Sheild Mr. Wainewright Mr. Waterhouse	7 7 0 12 mths. 10 10 0	Full Med. & Surg. 36 15 0	*Ophth. Surg.:* Mr. B. Carter Mr. Dent Mr. Turner *Assist. Ophth.:* Mr. Frost	2 years 21 0 0	
PRACTICAL SURGERY ...	Mr. Bowlby Mr. D'A. Power	7 7 0	...	Mr. Sheild Mr. Morgan	5 5 0	...	Mr. Dent	4 4 0	...
SURGICAL PATHOLOGY ...	Mr. Bowlby	...	...				...	...	...
CLINICAL MEDICINE... ...	Drs. Andrew, Church, Gee, & Sir D. Duckworth	...	...	The Physicians and Assistant-Physicians	...	...	The Physicians	...	...
CLINICAL SURGERY	Messrs. Smith, Willett, Langton, Marsh, and Butlin	...	...	The Surgeons and Assistant-Surgeons	...	...	The Surgeons	...	...
CLINICAL MIDWIFERY, &c.	Dr. Champneys	...	...	Drs. Black & Routh	...	...	Dr. Dakin	...	...
DENTAL SURGERY	...	...	...	Mr. Fairbank Mr. Colyer	...	...	Mr. H. L. Albert	...	... ...
PUBLIC HEALTH	Dr. Thorne	3 3 0	*	Dr. Whitelegge	3 3 0	...	...	...	
SUMMER SESSION.									
MATERIA MEDICA	Dr. Brunton	7 7 0	...	Dr. Willcocks	...	...	Dr. Penrose	4 14 6	5 15 6
PHARMACOLOGY	...	...	...	Dr. Willcocks	4 4 0	...	...		
MIDWIFERY, &c.	Dr. Champneys	7 7 0	...	Dr. Black	4 4 0	...	Dr. Dakin	4 14 6	5 15 6
BOTANY	Rev. G. Henslow	4 4 0	...	‡	...	...	...	...	...
MEDICAL JURISPRUDENCE	Dr. Hensley	4 4 0	...	Dr. Abercrombie Mr. Heaton (*Tox.*)	4 4 0	...	Dr. Owen	4 4 6	5 15 6
THERAPEUTICS	...	...	...	Dr. Willcocks	..	...	Dr. Penrose	4 4 6	...
PATHOLOGICAL ANATOMY	Dr. Norman Moore (& in Winter)	7 7 0	...	Dr. Murray	4 4 0	...	Dr. Rolleston	...	*
PRACTICAL CHEMISTRY ...	Dr. Russell	5 5 0	...	‡ Mr. Heaton	5 5 0	2 2 0	Dr. Rideal	4 4 0 4 4 0	...
COMPARATIVE ANATOMY...	Dr. Shore	2 12 6	...	...	...	...	Dr. Buckmaster	4 4 0	...
OPHTHALMIC SURGERY ...	Mr. Power Mr. Vernon (in Winter)	3 3 0	*	Staff of Royal West. Oph. Hosp.	...	...	Mr. B. Carter *Pract. Med.:* Dr. Ewart	... 4 4 0	... ...
OPHTHALMOLOGY	...	...	...		...	...	...	...	...
PSYCHOLOGY	Dr. Claye Shaw	3 3 0	...	Dr. Hack Tuke	4 4 0	...	...	...	...
DENTAL SURGERY	Mr. Paterson	2 12 6	...	Mr. Fairbank Mr. Colyer	...	...	Mr. H. L. Albert	...	...
PRACTICAL SURGERY... ...	Mr. Bowlby Mr. D'Arcy Power (and in Winter)	7 7 0	...	Mr. Sheild	...	...	Mr. Dent	4 4 0	...
PRACTICAL PHYSIOLOGY...	Drs. Harris, Cantley, and Fletcher (and in Winter)	10 10 0	...	Dr. Mott (& in Winter)	6 6 0	2 2 0	Dr. Buckmaster	...	...
PRACTICAL PHARMACY ...	Dr. Brunton	...	...	Mr. Pearce	2 2 0	...	...	...	...
OPERATIVE SURG. (DEMONSTR.)	Mr. Lockwood Mr. Bowlby Mr. D'A. Power	6 6 0	...	Mr. Sheild	§	...	Mr. Turner *Pract. Midw.:* Dr. Dakin	2 2 0	...
DISEASES OF THE EAR ...	Mr. Cumberbatch	...	...	Mr. Sheild	...	...	Mr. Bull	...	...
DISEASES OF THE SKIN ...	Mr. Cripps	...	...	Dr. Sangster	...	...	Dr. Cavafy	...	...
ORTHOPÆDIC SURGERY ...	Mr. Walsham	...	...	...	...	...	Mr. Dent	...	...
DISEASES OF THE THROAT	Mr. Butlin	...	...	Dr. Willcocks	...	...	Dr. Whipham	...	...
Fee for all Lectures and Hosp. Med. and Surg. Practice ...	£157 10s.; or, 1st yr., £42; 2nd yr., £42; 3rd yr., £42; 4th yr., £42 (including dresserships).			£115 10s.; or, 1st Win., £34 13s.; 1st Sum., 2nd Win., 2nd Sum., 3rd Win., £23 2s. each †			£145; or, 1st yr., £48 13s. 6d.; 2nd yr., £48 13s. 6d.; 3rd yr., £40 10s. 6d.; 4th yr., £20 10s. 6d.		

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* Free to general students of the hospital. † Dental students £36 15s., or two instalments of 20 guineas each. A proportionate reduction in their fees will be made to students who have already commenced their education at institutions recognised by the Examining Boards on production of satisfactory certificates on joining the school. ‡ Included in Materia Medica. § Included in Practical Surgery fee. ‖ Fee for perpetual students.

TABULAR LIST OF THE CLASSES, LECTURERS, AND FEES, AT THE LONDON HOSPITALS AND MEDICAL SCHOOLS, FOR THE SESSION 1892-93—(CONTINUED.)

LECTURES, &c.	GUY'S HOSPITAL.			KING'S COLLEGE AND HOSPITAL.		
	LECTURERS.	FEES.		LECTURERS.	FEES.	
		First Course.	Subseqt. Course.		One Course.	Perpetual.
WINTER SESSION.		£ s. d.	£ s. d.		£ s. d.	£ s. d.
PHYSIOLOGY	Mr. Golding-Bird, Dr. Washbourn, and Dr. Starling	10 10 0	10 10 0	Dr. Halliburton, Mr. Beale, and Mr. Brodie	8 8 0	...
ANATOMY, DESCRIPTIVE & SURGICAL	Mr. Clement Lucas & Mr. Jacobson	10 10 0	10 10 0	Dr. Curnow	6 6 0 or 9 9 0 inc. Prac. Anatomy	
ANATOMICAL DEMONSTRATIONS	Mr. Dunn, Mr. Targett, & Mr. Fripp	10 10 0	10 10 0	Dr. Curnow, Mr. A. S. Kenny, & Mr. A. W. Cadman	7 7 0	...
CHEMISTRY	Dr. Stevenson & Mr. Groves	5 5 0	5 5 0	Mr. Thomson, Mr. Johnson, & Mr. Jackson	8 8 0	...
MEDICINE	Dr. Pye-Smith Dr. Taylor	10 10 0	10 10 0	Dr. Beale	8 8 0	...
SURGERY	Mr. Howse & Mr. Davies-Colley	10 10 0	10 10 0	... Mr. W. W. Cheyne	8 8 0	...
PRACTICAL SURGERY	Mr. Symonds & Mr. Lane	4 4 0	4 4 0	Messrs. Barrow, Carless, & Burghard	3 3 0	...
HOSPITAL PRACTICE Physicians	Dr. Pye-Smith, Dr. Taylor, Dr. Goodhart, & Dr. Hale White Dr. Galabin (*obst.*)	3 months 5 5 0 6 months 21 0 0	Perpetual 42 0 0	Dr. Beale, Dr. Duffin Dr. Playfair (*acc.*) Dr. Burney Yeo Dr. Hayes (*accou.*) Dr. Ferrier, Dr. Curnow Dr. Tirard	Summer 8 8 0 Winter 11 11 0 1 Year 18 18 0	42 0 0
Assistant-Physicians	Drs. Pitt, Perry, Shaw, & Washbourn Dr. Horrocks (*obst.*)	1 year 28 7 0	...	Dr. Dalton Sir H. Beevor, Bart., M.B. Dr. Phillipps (*acc.*)	...	
Surgeons	Mr. Durham, Mr. Howse, Mr. Davies-Colley, & Mr. Lucas Mr. Higgens (*oph.*), Mr. Newland-Pedley (*dent.*) Mr. L. Purves (*aural*)	3 months 5 5 0 6 months 21 0 0 1 year 28 7 0	Perpetual 42 0 0 ...	Sir Joseph Lister, Bart. Mr. W. Rose & Mr. Cheyne Mr. A. S. Underwood (*surg.-dentist*) Mr. McHardy (*ophthalmic*)	...	...
Assistant-Surgeons	Messrs. Golding-Bird, Jacobson, Symonds, Lane, Brailey (*oph.*), & Maggs (*dent.*)	...	...	Mr. Barrow Mr. Carless Mr. Burghard	...	...
CLINICAL MEDICINE	Drs. Pye-Smith, Taylor, Goodhart, & White *In Summer:* Drs. Pitt, Perry, Shaw, & Washbourn	...	...	Dr. Beale Dr. Duffin Dr. B. Yeo Dr. Ferrier Dr. Curnow	...	...
CLINICAL SURGERY	Messrs. Durham, Howse, Davies-Colley, & Lucas *In Summer:* Mr. Golding-Bird, Mr. Jacobson, Mr. Symonds & Mr. Lane	...	...	Sir Joseph Lister, Bart. (*Emeritus*) Mr. W. Rose [*Osteology:* Dr. Curnow & Mr. A. S. Kenny]		
CLINICAL MIDWIFERY	Dr. Galabin & Dr. Horrocks	...	...	Dr. Playfair & Dr. Hayes	...	...
	[*Medical Classes:* Dr. Shaw] [*Surgical Classes:* Mr. Symonds & Mr. Lane]			[*State Medicine Laboratories:* Dr. W. R. Smith & Mr. Huntley]		
SUMMER SESSION.						
MATERIA MEDICA & THERAPEUTICS	Dr. Hale White	5 5 0	5 5 0	Dr. Tirard	5 5 0	...
MIDWIFERY &c.	Dr. Galabin	5 5 0	5 5 0	Dr. Playfair, Dr. Hayes	5 5 0	...
BOTANY	...	5 5 0	5 5 0	Mr. Groves	4 4 0	...
BIOLOGY	Mr. Beddard, Dr. Campbell, Mr. Targett, and Dr. Fawcett	10 10 0	10 10 0	Dr. Halliburton, Mr. Beale, and Mr. Brodie	...	...
MEDICAL JURISPRUDENCE	Dr. Stevenson	5 5 0	5 5 0	Dr. W. R. Smith	5 5 0	...
DISEASES OF WOMEN	Dr. Galabin	5 5 0	5 5 0	Dr. Playfair	...	...
PRACTICAL CHEMISTRY	Mr. Groves and Mr. Wade	5 5 0	5 5 0	Messrs. Thomson, Johnson, & H. Jackson	6 6 0	...
PRACTICAL PHYSIOLOGY	Mr. Tubby, Dr. Campbell, and Dr. Fawcett	7 7 0	7 7 0	Dr. Halliburton, Mr. Beale, and Mr. Brodie	5 5 0	...
NEURO-PATHOLOGY	...	...	...	Dr. Ferrier & Dr. Turner	1 11 6	...
PRACTICAL BIOLOGY	Mr. Beddard, Dr. Campbell, Mr. Targett, and Dr. Fawcett	10 10 0	10 10 0	Mr. Beale, Mr. Brodie	8 8 0*	...
NATURAL PHILOSOPHY	Mr. Reinold	5 5 0	5 5 0	Mr. W. G. Adams	2 2 0	...
COMPARATIVE ANATOMY	...	5 5 0	5 5 0	Mr. F. J. Bell (in Winter)	4 4 0	...
PATHOLOGY AND MORBID ANATOMY	Drs. Pitt, Perry, & Shaw	5 5 0	5 5 0	Dr. Duffin, Dr. Dalton	3 3 0	...
BACTERIOLOGY	Dr. Washbourn	2 2 0	2 2 0	Mr. Crookshank & Mr. Hewlett	3 3 0	...
OPERATIVE SURGERY	Mr. Symonds	5 5 0	5 5 0	Mr. A. B. Barrow	2 2 0	...
MORBID HISTOLOGY	Dr. Pitt & Mr. Lane	5 5 0	5 5 0	Dr. Dalton	...	...
OPHTHALMIC SURGERY	Mr. Higgens	3 3 0	3 3 0	Mr. McHardy	3 3 0	...
PSYCHOLOGICAL MEDICINE	Dr. Savage	3 3 0	3 3 0	Dr. Ernest White	...	...
DENTAL SURGERY	Mr. Newland-Pedley	...	...	Mr. A. S. Underwood	...	...
AURAL SURGERY	Mr. L. Purves	...	...	Dr. Pritchard	...	...
DEMONST. OF CUTANEOUS DISEASES	Dr. Perry	...	...	Dr. Duffin	...	...
VACCINATION	...	...	...	Mr. Webb	...	...
PUBLIC HEALTH	Mr. Turner	3 3 0	3 3 0	Dr. Kelly	1 1 0	...
PRACTICAL PHARMACY	Mr. Collier	3 3 0	3 3 0	Mr. Wilmot	3 3 0	...
				[*Clin. Therap.:* Dr. B. Yeo]	...	...
				[*Pract. Pathol.:* Dr. Dalton]	5 5 0	...
Fee for Lectures, and Hospital Medical and Surgical Practice	£150; or by two instalments of £75 10s.; or by four instalments of £52 10s., £52 10s., £31 10s. and £21.			£135; or in two annual instalments of £70; or three of £48; or four of £37 each.		

* Elementary Course, £5 5s.

TABULAR LIST OF THE CLASSES, LECTURERS, AND FEES, AT THE LONDON HOSPITALS AND MEDICAL SCHOOLS, FOR THE SESSION 1892-93—(CONTINUED.)

LECTURES, &c.	LONDON HOSPITAL.			ST. MARY'S HOSPITAL.			MIDDLESEX HOSPITAL.		
	LECTURERS.	FEES. One Course.	FEES. Perpetual.	LECTURERS.	FEES. One Session.	FEES. Perpetual.	LECTURERS.	FEES. One Session.	FEES. Perpetual.
		£ s. d.	£ s. d.		£ s. d.	£ s. d.		£ s. d.	£ s. d.
WINTER SESSION.									
PHYSIOLOGY	Mr. Mansell Moullin	7 7 0	...	Dr. Waller	7 0 0	...	Mr. Lowne	10 10 0	...
EXPERIMENTAL PHYSIOL.	Mr. Mansell Moullin	...	...	...	...	...	...	6 6 0	...
PATHOL. & MORBID ANAT.	Dr. James Anderson	3 3 0	...	Mr. Silcock Dr. Maguire	4 0 0	...	...	...	...
ANATOMY, DESCRIPTIVE & SURGICAL.	Mr. F. Treves	7 7 0	...	Mr. E. Lane	8 0 0	...	Mr. Hensman	12 12 0	...
ANATOMICAL DEMONSTRATIONS.	[*Pract. Anat.:* Mr. T. H. Openshaw]	7 7 0	...	Dr. Hill Mr. Boughton	...	...	Messrs. Hensman, Brodie, Hartley, & Wells	6 6 0	...
CHEMISTRY	*Practl.:* Mr. Page [*Exp. Phys.:* Mr. Page]	... 5 5 0 3 3 0	...	Dr. Wright, F.R.S. Mr. Leon	6 0 0	...	Mr. W. Foster	7 7 0	...
MEDICINE	Dr. Stephen Mackenzie	7 7 0	...	Dr. Cheadle Dr. Lees	8 0 0	...	Dr. Cayley	10 10 0	...
SURGERY	Mr. McCarthy	7 7 0	...	Mr. Owen Mr. Page	8 0 0	...	Mr. H. Morris	10 10 0	...
PRACTICAL SURGERY... ...	Mr. J. Hutchinson, jun.	5 5 0	...	Mr. Pepper, Mr. Crowle (*assistant*)	4 0 0	...	Mr. A. Clark	8 8 0	...
PRACTICAL MIDWIFERY ...	Drs Herman & Lewers	5 5 0	...	...	...	...	Dr. Boxall	5 5 0	...
PRACTICAL MEDICINE ...	...	...	...	...	...	...	Drs. Coupland & Pringle	8 8 0	...
HOSPITAL PRACTICE:									
PHYSICIANS	Drs. H. Jackson, Fenwick, Mackenzie, Sansom, Turner, Herman (*obst.*), Smith, Warner, Ralfe, Lewers (*obst.*)	3 mths. 10 10 0 6 mths. 15 15 0 1 year 21 0 0	26 5 0	Dr. Broadbent Dr. Cheadle Dr. Lees *To Out-patients:* Drs. Sidney Phillips, Maguire, and Luff	3 mths. 4 0 0 6 mths. 7 0 0 1 year 12 0 0	24 0 0	Dr. W. Cayley Dr. Coupland Dr. D. Powell Dr. Fowler Dr. W. Duncan (*obst.*) Dr. Pringle (*skin*)	3 mths. 6 11 0	...
ASSISTANT-PHYSICIANS ...	Dr. Anderson Dr. Percy Kidd Dr. J. F. Smith	...	...	Dr. Handfield Jones (*obs.*)	...	...	Dr. Biss Dr. Pringle Dr. W. Pasteur Dr. W. E. Wynter Dr. Boxall (*obst.*)	...	...
SURGEONS	Mr. W. Tay (*Oph.*) Mr. McCarthy Mr. F. Treves Mr. C. Mansell Moullin Mr. Hurry Fenwick Dr. Woakes & Mr. T. M. Hovell (*Aur.*) Mr. Barrett (*Dent.*)	3 mths. 10 10 0 6 mths. 15 15 0 1 year 21 0 0	26 5 0	Mr. Norton Mr. Owen Mr. Page *To Out patients:* Mr. Pepper Mr. Silcock Mr. J. E. Lane Mr. Critchett & Mr. Juler (*ophth.*)	3 mths. 4 0 0 6 mths. 7 0 0 1 year 12 0 0	24 0 0	Mr. Hulke Mr. G. Lawson Mr. Morris Mr. Andrew Clark Mr. S. Bennett (*dental*) Mr. Lang (*oph.*) Mr. Hensman (*aural*)	3 mths. 6 11 0	...
ASSISTANT-SURGEONS ...	Mr. Eve (*Ophthal.*) Mr. J. Hutchinson, jun., Mr. Openshaw, Mr. H. P. Dean	...	...	Mr. Field (*aur.*) Mr. Morris (*skin*) Mr. Morton Smale (*dental*)	...	...	Mr. Pearce Gould Mr. J. B. Sutton Mr. W. Hern (*assist. dental*)	...	...
LINICAL MEDICINE	The Physicians and Asst.-Phys.	...	...	Dr. Broadbent	...	...	The Physicians	...	...
LINICAL SURGERY	The Surgeons and Asst.-Surg.	...	...	Mr. Norton	...	...	The Surgeons Superintend. of P.-M. exam.: Dr. F. Voelcker	...	...
SUMMER SESSION.									
ATERIA MEDICA...	Dr. Warner and a Demonstrator	4 4 0	...	Dr. Phillips	4 0 0	...	...	...	...
HERAPEUTICS			...	Dr. Phillips	...	...	Dr. Biss	2 2 0	...
IDWIFERY, &c.	Dr. Herman	5 5 0	...	Dr. M. H. Jones	5 0 0	...	Dr. W. Duncan	6 6 0	...
OTANY	...	...	...	...	3 0 0	...	No lectures	...	...
EDICAL JURISPRUDENCE	Dr. F. J. Smith	4 4 0	...	Dr. Luff	4 0 0	...	Dr. Pasteur	5 5 0	...
OXICOLOGY	Dr. F. J. Smith	4 4 0	...	Dr. Luff	...	...	...	...	...
RACTICAL CHEMISTRY ...	Mr. Page	5 5 0	...	Dr. Wright	4 0 0	...	Mr. W. Foster	5 5 0	...
RGANIC CHEMISTRY ...	...	...	...	...	...	...	‡	4 4 0	...
IOLOGY	Mr. H. P. Dean	...	...	...	...	...	Mr. J. B. Sutton§	6 6 0	...
ATHOL. HISTOLOGY... ...	Mr. Eve	3 3 0	...	...	...	...	Dr. Voelcker	3 3 0	...
ATHOLOGY AND MORBID ANATOMY.	Dr. James Anderson	3 3 0	...	Mr. Silcock Dr. Maguire	2 2 0	...	Dr. Fowler	5 5 0	...
PERATIVE SURGERY ...	Mr. McCarthy & Mr. J. Hutchinson, jun.	5 5 0	...	Mr. Pepper	...	...	Mr. A. Clark	5 5 0	...
PRACTICAL PHYSIOLOGY...	Mr. Mansell Moullin	4 4 0	...	...	...	...	Messrs. Lowne, Karop, Young, & Dobbin	5 5 0	...
HISTOLOGY AND THE MICROSCOPE.	Mr. Mansell Moullin (& in Winter)	...	...	Dr. Waller	...	...			
OPHTHALMIC SURGERY ...	Mr. Eve	2 2 0	...	† Mr. Juler	...	...	Mr. Lang	...	...
ANÆSTHETICS	Dr. Hewitt	...	...	Mr. Davis	2 2 0	...	Mr. G. E. Norton	1 1 0	...
AURAL SURGERY	Dr. Woakes	2 2 0	...	Mr. Field	...	...	Mr. Hensman	...	...
DENTAL SURGERY	Mr. Barrett	2 2 0	...	Mr. Morton Smale	3 0 0	...	Mr. Storer Bennett (in Winter)	...	...
DISEASES OF THE SKIN ...	Dr. Steph. Mackenzie	...	...	Mr. Morris	3 0 0	...	Dr. Pringle.	...	...
PSYCHOL. MEDICINE... ...	...	...	...	Sir J. Crichton-Browne	3 0 0	...	Dr. Mickle	2 2 0	...
DISEASES OF THE THROAT	Mr. Mark Hovell	2 2 0	...	Dr. Spicer	3 3 0	...	Mr. Hensman	...	...
PRACT. PHARM. & DISPENS.	Mr. Robertson	3 3 0	...	...	...	...	Mr. Fardon [*Pub. Health:* Dr. Pasteur]	3 3 0	...
Fee for all the Lectures required by the Colleges and Hall, and Hospital Medical and Surgical Practice	150 guineas; or 130 guineas by 3 instalments.			Perpetual studentship £130; or, 1st year, £40; 2nd year, £40; 3rd year, £30; 4th year, £25.			£105 0		

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* London Hosp.: *Pub. Health and Hygiene*, Dr. Ralfe, Mr. Eve, Mr. Page, Dr. Hadley, and Dr. Schorstein; and in the Winter. Fee for the whole course for D.P.H., including material, £21. Medical Tutor, Dr. Soltau Fenwick; Surgical Tutor, Mr. Jonathan Hutchinson, jun.

† St. Mary's Hosp.: Med. Tutors, Dr. S. Phillips and Dr. Luff; Obst. do., Dr. H. Jones; Surgical do., Mr. Crowle—throughout year thrice weekly.

‡ Middlesex Hospital: Medical Tutor, Dr. S. Martin; Surgical Tutor, Mr. Pearce Gould. § In Winter.

TABULAR LIST OF THE CLASSES, LECTURERS, AND FEES, AT THE LONDON HOSPITALS AND MEDICAL SCHOOLS, FOR THE SESSION 1892-93—(continued.)

LECTURES, &c.	ST. THOMAS'S HOSPITAL AND SCHOOL.			UNIVERSITY COLLEGE AND HOSPITAL.			WESTMINSTER HOSPITAL.		
	Lecturers.	Fees. One Course.	Fees. Perpetual.	Lecturers.	Fees. One Course.	Fees. Perpetual.	Lecturers.	Fees. First Course.	Fees. Subseqt. Course.
WINTER SESSION.		£ s. d.	£ s. d.		£ s. d.	£ s. d.		£ s. d.	£ s. d.
PHYSIOLOGY	Dr. Sherrington	10 10 0	...	*Professor E. A. Schäfer	3, 5, & 7 gs.	...	Dr. Abraham	6 6 0	2 2 0
PRACTICAL PHYSIOLOGY AND HISTOLOGY	*Dr. T. C. Charles [Mr. Kent	10 10 0	...	*Prof. Schäfer and Mr. J. B. Parsons	2, 4, & 7 gs.	...	Dr. Abraham and in Summer	2 2 0 6 6 0	... 2 2 0
PHYS. DEMONSTRATIONS... ...	Dr. Sherrington &	...	...	...	...	...	...	...	...
ANATOMY, DESCRIPTIVE AND SURGICAL	Mr. Anderson Mr. Makins	10 10 0	...	Prof. Thane Mr. Pollard	10 10 0	...	Mr. Black	7 7 0	3 3 0
ANATOM. DEMONSTRATIONS...	Messrs. Anderson & Makins, Messrs. Parsons, Abbott, & Robinson*	12 mths. 10 10 0	...	Dr. P. Flemming Mr. Pollard, & Mr. G. F. Blacker Dr. W. J. Mickle (*Mental Phys.*).	8 8 0 2 2 0	...	Mr. Stonham [*Morbid Histology:* Dr. Hebb]	5 5 0	3 3 0
PATHOLOGICAL ANATOMY ...	Dr. Hadden (*Practical Course*)	8 8 0	...	Prof. Horsley (*Pract. Path.*)	3 3 0	...	...	...	...
CHEMISTRY	Mr. Dunstan	7 7 0	...	Profs. Ramsay and Plimpton	6 6 0	...	Dr. Dupré and Dr. Wilson Hake	6 6.0	2 2 0
MEDICINE	Dr. Ord Dr. Payne	7 7 0	...	Prof. H. C. Bastian	9 9 0	11 11 0	Dr. Sturges Dr. Allchin	6 6 0	...
SURGERY	Sir W. MacCormac Mr. Clutton	7 7 0	...	Prof. Marcus Beck	7 7 0	8 8 0	Mr. Cowell Mr. Macnamara	6 6 0	...
GENERAL PATHOLOGY	*Sur.:* Mr. Shattock	...	...	...	...	...	Dr. Hebb	4 4 0	2 2 0
NATURAL PHILOSOPHY	...	5 5 0	...	[*Chem. Physics:* Prof. Foster]	1 11 6	...	Mr. Somerville	...	...
HOSPITAL PRACTICE: Physicians	Drs. Ord, Harley, & Payne, Sharkey, Cullingworth (*Obst.*), Semon (*Throat*)	3 mths. 21 0 0 6 mths. 26 5 0 1 year 36 15 0	73 10 0	Drs. Ringer, Bastian, Roberts, Poore, Barlow, Williams (*obst.*), & Crocker (*Skin*)	12 mths. 21 0 0	36 15 0	Drs. Sturges, Allchin, Donkin, Potter (*obst.*), & Fox (*Skin*) [*Neur. & Alienism:* Dr. Mercier, £2 2s.]	3 mths. 5 5 0 6 mths. 8 8 0	...
Assistant-Physicians ...	Drs. Hadden, Acland, and Hawkins, Cory (*obst.*)			Drs. Bradford, Spencer (*obst.*), and Martin	...	...	Dr. Hall Dr. Bennett Dr. Murrell Dr. Hebb Dr. Grigg (*Obst.*) Dr. Hall (*Throat*)	... ...	... ...
Surgeons	Sir Wm. Mac Cormac, Mr. MacKellar, Mr. Clutton, Mr. Anderson Mr. Nettleship (*ophthal.*)	...	...	Profs. C. Heath and M. Beck Mr. A. E. Barker Mr. R. J. Godlee Prof. J. Tweedy Mr. Hutchinson (*dent.*) *Org. Chemistry:* *Prof. Ramsay	... 3 3 0	...	Mr. Cowell Mr. Davy Mr. Macnamara Dr. Walker (*dent.*) [*Ophth. Prac.:* Mr. Cowell] [*Orthopædic:* Mr. Davy] [*Aural:* Mr. Black]	3 mths. 5 5 0 6 mths. 8 8 0	...
Assistant-Surgeons ...	Messrs. Pitts Makins, Battle, & Ballance (*Aural*). Mr. Lawford (*Ophthal.*).	...	...	Prof. V. Horsley & Mr. Bilton Pollard	...	...	Messrs. Cooke, Bond, Stonham, & Spencer	...	...
CLINICAL MEDICINE	The Physicians	...	...	The Physicians	...	...	The Physicians	...	...
CLINICAL SURGERY	The Surgeons in rotation	...		The Surgeons	...	...	The Surgeons	...	...
CLINICAL MIDWIFERY, &c. ...	Dr. Cullingworth [*Tac.:* Dr. Cory] [*Obstet. Demons.:* Dr. Cory]	...	...	Dr. Williams Dr. H. Spencer [*Bacteriol.*, £4 4s. for Univ. Coll. students; £8 8s. for others.]	...	...	Dr. Potter [*Path. Dem.:* Dr. Hebb, weekly] [*Minor Surg. & Bandaging*]*	...	...
SUMMER SESSION.									
MATERIA MEDICA, &c.	Dr. Hadden	5 5 0	...	Prof. Roberts	6 6 0	7 7 0	Dr. Murrell	3 3 0	...
MIDWIFERY, &c.	Dr. Cullingworth	6 6 0	...	Prof. Williams	6 6 0	7 7 0	Dr. Potter	4 4 0	1 1 0
BOTANY	Mr. A. W. Bennett	3 3 0	...	Prof. Oliver	3 13 0	...	...	...	...
MEDICAL JURISPRUDENCE ...	Dr. Cory & Mr. MacKellar	5 5 0	...	Prof. G. V. Poore	5 5 0	6 6 0	Mr. Bond, Dr. Grigg Dr. Dupré (*Tox.*)	3 3 0	1 1 0
PRACTICAL CHEMISTRY	Mr. Dunstan	6 6 0	...	Dr. Ramsay	5 5 0	...	Dr. Wilson Hake	4 4 0	2 2 0
STATE MEDICINE...	...	...	...	Prof. Corfield	...	...	...	...	...
MENTAL DISEASES	Dr. Rayner	3 3 0	...	Dr. Mickle	1 1 0	...	Dr. Mercier	2 2 0	...
HYGIENE AND PUB. HEALTH...	Dr. E. Seaton	3 3 0	...	Prof. Corfield	3 3 0	...	Dr. M. Copeman	1 1 0	...
CLINICAL MEDICINE	The Physicians	...	...	As in Winter	...	...		...	...
COMPARATIVE ANATOMY... ...	Mr. Parsons (with Zoology)	2 2 0	...	†Prof. Weldon	6 6 0	...	...	2 3 0	...
PATHOLOGY & MORB. ANATOMY	Dr. Sharkey	8 8 0	...	Prof. Horsley	6 6 0	7 7 0	Dr. Hebb	4 4 0	...
BACTERIOLOGY	...	...	...	Prof. Boyce	4 4 0	...	...	...	...
OPHTHALMIC SURGERY	§Mr. Nettleship §Mr. Lawford	3 3 0	...	†Prof. J. Tweedy	2 2 0	...	Mr. Cowell	1 1 0	‡
DENTAL SURGERY	Mr. Truman	...	...	†Mr. S. J. Hutchinson	...	...	Dr. Walker	2 2 0	‡
PRACTICAL SURGERY	Messrs. MacKellar, Pitts, & Ballance	6 6 0	...	†Mr. Bilton Pollard †Mr. R. J. Godlee †Mr. Barker	6 6 0	...	Mr. Davy Mr. Spencer	5 5 0	...
PRACTICAL MEDICINE	Dr. Acland Dr. Hawkins	3 3 0	...	...	...	...	...	...	...
ELEMENTARY BIOLOGY	§Mr. Parsons	6 6 0	...	Profs. Weldon† & Oliver†	4 4 0	...	...	...	...
PRACTICAL OBSTETRICS	Drs. Cory & Tate	3 3 0	...	...	...	...	...	...	...
OPERATIVE SURGERY	Mr. Pitts Mr. Ballance	5 5 0	...	*Mr. R. J. Godlee	5 5 0	...	...	4 4 0 6 6 0	...
PRACTICAL PHARMACY	Mr. White	3 3 0	...	Mr. Gerrard	3 3 0	...	Mr. Tanner	2 2 0	...
Fee for Lectures and Hospital Practice	150 gns.; or by two instalments, £85 and £72 10s.; or by four instalments, £65, £50, £30, and £12 10s.			£135 10s.; or by instalments, £63, £52 10s., and £25 5s.			£115; or two instalments of £60 each; or six instalments of £27 and £17 alternately.		

* In Summer. † In Winter. ‡ Free to students of the hospital. § Winter and Summer.

mination, and who have not entered at any London medical school. Subjects: Anatomy and Physiology, including Histology. The examination for this Scholarship, which will be partly practical, will be held on Sept. 19th and 20th. Notice to compete must be sent in on or before Saturday, Sept. 17th, 1892. The successful candidate will be required to enter forthwith at Charing-cross Hospital for the completion of his curriculum. The Llewellyn Scholarship of £25, for students who have just completed their attendance on lectures; and the Golding Scholarship of £15, for both General and Dental students who have just completed their first year. The Pereira Prize of £5 is open to all general students, and is awarded annually for the best clinical reports. The Governors' Gold Medal is given for excellence in clinical work. Silver or Bronze Medals, or an equivalent in Books, are awarded to the most distinguished students in all classes; and special prizes in the classes of Dental Surgery, Physiology and Practical Histology. In consequence of the larger number of students year by year joining the school it was found necessary in 1889 to increase the accommodation for practical instruction. The adjoining premises were therefore acquired, and on the space thus gained there have now been erected new buildings, including physiological and pathological laboratories, a materia medica museum and an anatomical theatre. The existing dissecting-room and the chemical theatre have been enlarged. A larger and well-lighted room has been provided for the pathological museum and the space thus set free has been devoted partly to the enlargement of the library, but chiefly to the providing of a reading-room for the Students' Club.

Classes for the Preliminary Scientific Examination of the University of London are held at this Medical School. The fee for the whole course, which begins in October, is 15 guineas.

ST. GEORGE'S HOSPITAL.—Perpetual pupils, by payment of £150 in three instalments, or £145 in one sum, are entitled to admission to the medical and surgical practice; to compete for prizes and exhibitions; to hold the appointments of house physician and house surgeon, assistant house physician and assistant house surgeon, ophthalmic assistant, and to become clinical clerks for two periods of three months each, and dressers for similar periods, free of any charge. Gentlemen are admitted to the hospital practice and lectures required by the College of Physicians and Surgeons and the Society of Apothecaries on payment of £45 at the commencement of the first year of study, £45 at the commencement of the second year of study, £40 for the third and £20 for each subsequent year of attendance. On payment of the fourth instalment the pupil may become perpetual, provided that the Dean can certify that his conduct has been satisfactory. These payments entitle the pupil to hold the offices of clinical clerk and dresser for three months each, and to become a candidate for the offices of house physician and house surgeon. Perpetual pupils are eligible for the offices of curator of the museum, medical and surgical registrar, demonstrator of anatomy and obstetric assistant. These are all salaried offices. The obstetric assistant is resident, with a salary of £100.

Entrance Scholarships.—£145, open to sons of medical men; two of £50 each, open to all students commencing their medical studies; two of £65 each, open to students who have been signed up for or passed the Oxford First M.B. or Cambridge Second M.B.

Prizes.—The William Brown Exhibition of £100 per annum, tenable for two years, open to any perpetual pupil of St. George's who is under twenty-five years of age, and who shall have obtained a diploma or licence entitling him to be registered as a practitioner of medicine or surgery in England within two years previously to the period fixed for the examination (July). The examination is to test the proficiency of the candidate in Medicine, Midwifery and Surgery, including Ophthalmic Surgery.—The William Brown Exhibition of £40 per annum, tenable for three years, for general fitness for the exercise of the medical profession and for moral conduct, open to perpetual pupils in their third year of study.—Sir Charles Clarke's Prize (interest of £200 consols) for good conduct and for clinical work rendered in the service of the hospital; the Brackenbury Prize in Medicine, value £32; the Brackenbury Prize in Surgery, value £32; the Treasurer's Prize, £10 10*s.*; the Thompson Medal; the Brodie Prize for Clinical Surgery; the Acland Prize for Clinical Medicine; the Pollock Prize in Physiology; the Henry Charles Johnson Prize in Anatomy; and General Proficiency Prizes, value £10 10*s.* each, for students of each year.

GUY'S HOSPITAL. — *Appointments:* House physicians, house surgeons, assistant house physicians and assistant house surgeons, obstetric residents, clinical assistants, surgeons' and assistant surgeons' dressers, surgical ward clerks, clinical clerks, post-mortem clerks, extern obstetric attendants and dressers and clerks in the special departments are appointed from among the students upon the recommendation of the medical staff, according to merit and without extra payment. The house physicians, of whom there are four, hold office for six months each. The assistant house physicians, who hold office for three months, attend in the Out-patient Department four afternoons in the week, and see all the cases not seen by the assistant physician of the day. The house physicians have the care of the patients in the medical wards, and attend to all emergencies arising in the absence of the physicians. They are provided with board and lodging in the college free of expense. The house surgeons, of whom there are four, hold office for six months each, and are provided with board and lodging in the college free of expense. The Surgical Casualty Department is in charge of two assistant house surgeons. The surgeons' dressers are selected from those students who have completed their third winter session, and have been most diligent in the junior appointments. They hold office for three or six months. Six are attached to each surgeon, and during their weeks of special duty they are provided with board and lodging in the hospital free of expense. The obstetric residents, two in number, are provided with board and lodging in the college free of expense.

Scholarships, Prizes &c.—Entrance Scholarships in Arts (£131 5*s.* and £52 10*s.*). Subjects: Latin, Greek, French, German and Mathematics. — Entrance Scholarships in Science (£131 5*s.* and £52 10*s*). Subjects: Inorganic Chemistry, Zoology, Botany and Physics. The examination begins on Tuesday, Sept. 27th.—First-year students: First prize £50, second prize £25, for Anatomy, Physiology and Chemistry; the Arthur Durham Prize for Dissection, £5 to first-year students, £15 to those of later years.—For second-year students: First prize £25, second prize £10, for Anatomy, Physiology and Materia Medica. The Sands Cox Scholarship of £15 (tenable for three years) for Physiology. The Michael Harris prize of £10 for Anatomy.—For third-year students: First prize £25, second prize £10, for Medical and Surgical Anatomy, Midwifery and Therapeutics. The Beaney Prize of 30 guineas for Materia Medica.—For fourth-year students: First prize £25, second prize £10, for Medicine, Surgery, Midwifery and Medical Jurisprudence. The Golding Bird Prize of £33 for Methods of Diagnosis in Disease. — For senior students: The Treasurer's Gold Medal for Clinical Medicine; the Treasurer's Gold Medal for Clinical Surgery; the Gurney Hoare Prize of £25 for Clinical Reports and Commentaries; and the Beaney Prize of 30 guineas for Pathology. The Physical Society awards a prize of £5 to the author of the best Essay on a selected subject; a prize of £7 for the best paper read before the Society, and two prizes of £4 to the members who have most distinguished themselves in the debates of the session.

Fees.—1. A perpetual ticket, including admission to lectures, demonstrations and hospital practice, competition for prizes and eligibility for hospital appointments, may be obtained—(*a*) by the payment of £150 on entrance; (*b*) by two payments of £75 10*s.*, one on entrance, the other at the commencement of the ensuing session; (*c*) by the payment of four annual instalments at the commencement of each academical year: first year £52 10*s.*, second year £52 10*s.*, third year £31 10*s.*, fourth year £21. 2. A reduction is made in the fees for a perpetual ticket in the case of students who have spent one or more years at another medical school. Students entering as second-year students are charged for their first year at Guy's Hospital £52 10*s.*, second year £42, third year £42, or £130 in one sum on entrance. Students entering as third-year students are charged for their first year at Guy's Hospital £52 10*s.*, second year £31 10*s.*, or £80 in one sum on entrance. This fee is payable by Cambridge students who have passed in Anatomy and Physiology at the Second M.B. Examination.

The College.—The College stands upon a site fronting the east gate of the hospital, and is connected with it by a subway. The building has been planned to serve as a Residential College for Students, and at the same time to provide accommodation for the Students' Club.

KING'S COLLEGE. — The physicians' assistants, the physician-accoucheur's assistant, the ophthalmic clinical assistant, the senior clerks, and the house surgeons and senior dressers are selected by examination, whilst the junior clerkships and dresserships are appointed in order, in consideration of their former work in the medical school, from among these matriculated students. Rooms and commons are provided at the hospital for the resident officers free of charge. Rooms are provided within the walls of the College for the residence of matriculated students.

Scholarships.—Warneford Scholarships: Two of £25 per annum for three years for Literature. One additional Scholarship of £25 per annum for two years will be awarded this year. Science: One of £30 and one of £20 each for two years. Sambrooke: One of £60 and one of £40 for Science. Rabbeth Scholarship of £20 per annum for Science. College Scholarships: One of £40 per annum for two years; one of £30 for one year; three of £20 for one year. The Daniell Scholarship for Chemistry, of the annual value of £20. Sambrooke Registrarships, of the annual value of £50 each, and tenable for two years, are open to all matriculated students who have filled any one of the higher appointments of the hospital, or who have become Associates. The Leathes Prizes, value £7, and the Warneford Prizes, value £40, are given annually amongst the matriculated medical students. A Surgical Clinical Prize of £3 is given. The Todd Medical Clinical Prize consists of a bronze medal and books to the value of £4 4*s*. The Tanner Prize for Obstetric Medicine, value £10, and the Carter Gold Medal and Prize for Botany, value £15, are given annually in July. Class Prizes, value £3 3*s*. each, are awarded annually in every subject. A Warneford Scholarship of £25 per annum for two years for third-year subjects is awarded annually to resident students only.

LONDON HOSPITAL AND COLLEGE.—The Medical School of the London Hospital has lately been entirely remodelled and rebuilt. The present buildings were opened by their Royal Highnesses the Prince and Princess of Wales on May 21st, 1887, the accommodation now afforded being more than double that which was provided in the old buildings. The hospital, which is the largest in Great Britain, contains nearly 800 beds. Last year the number of in-patients was 9455, out-patients 112,092 and the number of accidents 1144.

The following Scholarships and Prizes will be offered for competition during the ensuing winter and summer sessions:—Two Entrance Scholarships in Natural Science, of the value of £75 and £50 respectively, will be offered for competition on September 28th, 29th, and 30th, 1892. The subjects are Physics, Botany, Zoology and Inorganic Chemistry. The successful candidates must forthwith become full pupils of the hospital and school, if not already entered, and *are not eligible to compete for* the Buxton Scholarships.—The two Buxton Scholarships, value £30 and £20, will be offered for competition on October 5th, 6th, and 7th, 1892. The subjects are those appointed by the General Council of Medical Education and Registration as the subjects of the Preliminary Examination.—A Scholarship, value £25, in Anatomy, Physiology, and Chemistry, will be competed for at the commencement of the summer session by first and second-year students.—A Scholarship, value £20, in Anatomy and Physiology, for first-year students. *(At the end of the summer session.)* The Letheby Prize, value £30, for proficiency in Chemistry. (At the end of the summer session.) Open to all full students who have completed their second summer session up to the termination of their fourth year from entrance.—A Hospital Scholarship, value £20, for proficiency and zeal in Clinical Medicine. (At the end of the winter session.)—A Hospital Scholarship, value £20, for proficiency and zeal in Clinical Surgery. (At the end of the winter session.)—A Hospital Scholarship, value £20, for proficiency and zeal in Clinical Obstetrics. *(At the end of June.)*—The Sutton Scholarship, value £20, in Pathology.—The Duckworth Nelson Prize, value £10, will be offered biennially for competition at the end of the winter session, and be open to all students on similar conditions to those of the Hospital Scholarships. The subjects of examination will be Practical Medicine and Surgery.—The Hutchinson Prize, value £35, will be given triennially to the author of the best essay upon a subject in Clinical Surgery. Candidates must be full students of the hospital who have not been registered more than ten years.—Out-patients' Dressers' Prizes. Six prizes, of the aggregate value of £60, will be offered for competition at the end of the winter session. Candidates must pass an examination in Minor Surgery, and have dressed diligently for twelve months.—Practical Anatomy Prizes, value £6 and £4.

Special classes are held throughout the year for the Preliminary Scientific Intermediate M.B. Examinations of the University of London and for the Primary and Pass Examinations for the Fellowship of the Royal College of Surgeons. Special entries can also be made for Medical and Surgical Practice, the Operative Surgery classes &c.

Instruction is given throughout the year in all the details required for the diploma in Public Health.

In addition to the regular courses of lectures, there will be given during the winter and summer sessions a course of lectures on Clinical Medicine by Sir Andrew Clark, Bart., F.R.S., Emeritus Professor of Clinical Medicine, and a course of lectures on Clinical Surgery by Mr. Jonathan Hutchinson, F.R.S., Emeritus Professor of Clinical Surgery.

ST. MARY'S HOSPITAL.—There are three house physicians and three house surgeons, each appointed for six months, and two obstetric officers, each appointed for six months. They board free of expense in the hospital, except that the obstetric officer resides outside the hospital for the first three months. These appointments are awarded after competition, without additional fee. Two demonstrators of anatomy are appointed annually, with a salary of £70 and £50 respectively; and a demonstrator of physiology, at £100 a year. All these officers are eligible for re-election. There is also a demonstratorship in pathological anatomy twice annually, of the value of £15, and tenable for six months; the holder of this scholarship will assist the pathologist in the discharge of duties in the museum and deadhouse. Two prosectors of anatomy and two assistant demonstrators of physiology are appointed annually, and receive a certificate and £5 each for satisfactory service in their respective departments. All students are required to perform the duties of clinical clerk and dresser during the last two years of their curriculum. Students of the third year and of subsequent years are also appointed as clerks and dressers to assist the physicians and surgeons in charge of the out-patients. The hospital contains 281 beds. Two wards are appropriated to the Diseases of Children, and one to those of Women; beds are also provided for Ophthalmic, Aural, and Cutaneous cases. There is an out-patient department for diseases of children. Special assistance is given to intending candidates for the final examinations of the Medical, Surgical, and Obstetric tutors. The Clarence Memorial wing will contain (1) a new Out-patients' Department, (2) Lying-in Wards, (3) a Residential College for Medical Officers and Students, (4) additional Special Wards, (5) a Nurses' Home. This will add 100 beds to the Hospital, making 381 in all, at an estimated cost of £100,000. The prospectus may be had on application to Mr. F. H. Madden, the School Secretary, or to G. P. Field, Dean.

Scholarships, Prizes, and Appointments: Scholarships offered for open competition previously to entering at the Medical School.—Entrance Scholarships: The following will be offered for competition on Sept. 26th and 27th, at 10 A.M.—One Scholarship in Natural Science, of the value of 100 guineas, open to any gentleman who has not completed a winter session of study at a medical school. Three Scholarships in Natural Science, each of the value of 50 guineas, under the same conditions One Scholarship, of the value of 125 guineas, open to students from Epsom College, being sons of medical men, and who have not completed a winter session of study at a medical school. This Scholarship is not given by competition. Two Scholarships, each of 50 guineas, open to students from the Universities of Oxford, Cambridge, or other University, who have not entered at any London medical school. The examination for the Scholarships will be conducted according to the syllabus of the Preliminary Scientific Examination of London University.

In addition to the Open Entrance Scholarships, Class Prizes, and usual Appointments, Scholarships will be offered for competition at the end of each year, open to all pupils.

These Scholarships are of the value of £20, £25, and £30 for the first, second, and third years respectively.

A residence for students, 33 and 35, Westbourne-terrace, W., in connexion with the hospital, is under the charge of a warden, Mr. E. Roughton, M.D., F.R.C S., who is prepared to receive applications from students desiring to enter upon residence during the ensuing session. Terms: £60 for the academical year. Qualified medical men are admitted to unlimited attendance on hospital practice at a fee of £15 15*s.*

MIDDLESEX HOSPITAL.—The hospital contains 320 beds, and during the past year 3018 patients were treated in the wards, and 38,318 attended as out-patients. There is a special department for patients suffering from cancer, consisting of four wards, containing thirty-four beds; here cancer patients are received and attended for a period limited only by the duration of their disease.

The Medical School buildings have been reconstructed and very greatly added to quite recently, and are well provided with all necessary accommodation for students. The Museum is large and rich. Students can take out books from the extensive School Library and read them at their own homes.

Scholarships &c. — Two Entrance Scholarships of the value of £100 and £60 are offered for competition just before the commencement of each winter session. An Exhibition of £10 10*s.* is competed for by students at the close of their first winter session. The Hetley Prize of £25 and the Governors' Prize of £21 are open to competition among students at the close of their third year. The subjects of examination are Clinical Medicine, Surgery &c. The Lyell Gold Medal is awarded annually for proficiency in Surgical Anatomy and Practical Surgery. The Murray Gold Medal and Scholarship, founded in connexion with the University of Aberdeen, are awarded every third year to a student of this hospital; it will be next open for competition in May, 1895. Two Broderip Scholarships, of the value of £60 and £40, are awarded annually to those students in their fourth year who pass the best examination in Clinical Medicine, Clinical Surgery, and Morbid Anatomy. Valuable prizes are given in each class.

Hospital Appointments.—Clinical Clerkships and Dresserships in all departments are allotted to students without any extra fee. Eighteen Resident Appointments are annually filled from the pupils of the hospital, each appointment extending over six months.

The Curriculum is designed to meet the requirements of the Royal Colleges of Physicians and Surgeons and of the Universities of London, Cambridge &c. Special Classes are held to prepare students for the Preliminary Scientific M.B. (Lond.) Examination and for the Primary Examination for the diploma of F.R.C.S. Eng.

A *Residential College* to accommodate about thirty students adjoins the hospital. The charge for residence is £10 10*s.* and £8 8*s.* per term, according to the position of the room. Breakfast, luncheon, and dinner are supplied in the College Hall at a very moderate charge.

Fees.—The Composition Fee for the entire curriculum is 120 guineas, or 130 guineas if paid in three instalments. The fee for the Dental Curriculum is 54 guineas, or 60 guineas if paid in two instalments. Students from the Universities are received on special terms.

ST. THOMAS'S HOSPITAL.—*Prizes for the Year 1892–93.*—For First-year students: Two Entrance Scholarships in Natural Science of the value of £150 and £60 respectively, open to all first-year students, will be awarded during the first week in October, after an examination in Physics, Chemistry, and either Physiology, Botany, or Zoology, at the option of the candidate; the William Tite Scholarship, the proceeds of £1000 consols, is awarded each year; also prizes of £20 and £10; summer, £15 and £10. For Second-year students: The Peacock Scholarship of £38 10*s.*, and the Musgrove Scholarship of £38 10*s.*, are awarded biennially to the students who shall take the highest place in the first-class list in the examinations at the end of the second winter session; they are tenable for two years, provided the holder obtains a place in the first-class in the subsequent winter examination: making the winter prizes £38 10*s*, £20, and £10; summer, £15 and £10. For Third-year students (winter): Second tenure of Scholarship, £38 10*s.*, and prizes of £20, £15, and £10; summer, £15 and £10. The Grainger Testimonial Prize of £15 annually is awarded to students for original work in Anatomy and Physiology. The Cheselden Medal for Surgery and Surgical Anatomy, and the Mead Medal for Practical Medicine, are awarded annually to fourth-year students. The Beaney Scholarship for Surgery and Surgical Pathology of the value of £52 10*s.*, awarded biennially to students who have completed their fourth but not their sixth year. The Solly Medal, with a prize of from 10 to 20 guineas, will be awarded biennially to a student of the third, fourth, fifth, or sixth year, for the best report of surgical cases. The Treasurer's Gold Medal, for general proficiency and good conduct, is awarded annually to a fourth-year student. There are numerous appointments for students who have completed their courses.

Fees.—The composition fee to Hospital Practice and Lectures may be paid in the following ways:—1. £150 on entrance in one sum. 2. £157 10*s.* in instalments. (*a*) By two payments, £85 on entrance and £72 10*s.* at the beginning of the second year; (*b*) by three payments, £75 at the beginning of the first year, £50 at the beginning of the second year, and £32 10*s.* at the beginning of the third year; (*c*) by four payments, £65 at the beginning of the first year, £50 at the beginning of the second year, £30 at the beginning of the third year, and £12 10*s.* at the beginning of the fourth year. Gentlemen entering at St. Thomas's for Lectures and Hospital Practice of the second and subsequent years pay £130 on entrance or three instalments of £52 10*s.*, £42, and £42. Students entering for Lectures and Hospital Practice of third and subsequent years pay a composition fee of £80, or £52 10*s* on entrance, and £31 10*s.* one year subsequently. The fee for attendance on the general subjects required of students in Dental Surgery is for the two years £65, or, by instalments, £55 for the first year and £15 for the second year. If certificates for Dental Practice are also required, the special fee for that subject has to be paid.

UNIVERSITY COLLEGE, LONDON.—*Composition Fees.*—1. For the entire medical education required by the Examining Board in England and the Society of Apothecaries, 130 guineas, if paid in one sum at the commencement of the course, 135 guineas, if paid by instalments, as follows—first year, 60 guineas; second year, 50 guineas; third year, 25 guineas. 2. For those students who do not require to attend Chemistry, Pharmacy, and Elementary Biology at a medical school (under the regulations of the Examining Board in England) the fee will be—112 guineas, if paid in one sum; 117 guineas, if paid by instalments, as follows—first year, 50 guineas; second year, 40 guineas; third year, 27 guineas. 3. For the whole course of instruction for the Intermediate Examination in Medicine of the University of London, 50 guineas. 4. For the course of instruction for the Final M.B. Examination of the University of London, 70 guineas, if paid in one sum; 72 guineas, if paid by instalments, as follows—first year, 40 guineas; second year, 32 guineas. 5 Composition fee for Dental Students, 65 guineas. 6. Composition fee for the whole course of instruction for the Preliminary Scientific (M.B.) Examination of the University of London, 34 guineas.

Exhibitions, Prizes, &c.—Three Entrance Exhibitions, of the respective values of £100, £60, and £40 per annum, tenable for one year, are annually awarded, upon examination by printed papers, to gentlemen who are about to commence their first winter attendance in a medical school. The subjects of the examination are—Chemistry, Physics, Botany, and Zoology. The Atkinson Morley Surgical Scholarship of £45, tenable for three years, is annually awarded to the student who, upon examination, is found to possess the greatest proficiency in the Theory and Practice of Surgery. The Sharpey Physiological Scholarship of about £105 per annum. Filliter Exhibition: a prize of £30 is awarded annually, in July, to the most proficient student in the class of Pathological Anatomy. An Atchison Scholarship, value about £55 per annum, tenable for two years. The Cluff Memorial Prize, value about £15, every second year to the most proficient in Anatomy, Physiology, and Chemistry. The Erichsen Prize: a surgeon's operating case of the value of £10 10*s.*, awarded yearly to the student of the class of Practical Surgery who shall most distinguish himself by manipulative skill. The Morris Bursary of £16 a year, tenable for two years. Besides the above, gold and silver medals and other prizes are awarded in each class.

Several professors and other gentlemen connected with the College receive students to reside with them; and in the office of the College there is kept a register of persons unconnected with the College who receive boarders into their families; among these are several medical gentlemen and clergymen.

The annual dinner of the old and present students of the Faculty of Medicine will be held at the Hôtel Métropole on Thursday, Oct. 1st, at 6.30 P.M. Sir G. Buchanan, M.D., will preside.

WESTMINSTER HOSPITAL.—The hospital contains upwards of 200 beds. There are separate departments for Diseases of the Eye, Ear, Skin, Teeth, and Throat, for Orthopædics, and for Diseases of Women, and a special ward for Children. The Anatomical Museum is constantly open to the students. There are also a Pathological Museum and a Materia Medica Museum.

A curator of the museum and a pathologist, with salaries of £40 and £50 respectively, and a medical and surgical registrar, each with a salary of £40, are appointed annually. Two house physicians, two house surgeons, and a resident obstetric assistant are appointed for six months after examination, and are provided with rooms and commons. Clinical assistants to the physicians and surgeons, and to the officers in charge of special departments, are appointed from among qualified students of the hospital.

Preliminary Scientific and Intermediate (*M.B.*) *Examinations of the University of London*—Arrangements have been made for holding classes in the subjects of the Preliminary Scientific (M.B.) Examination. The total fees for these will be 12 guineas. Students will also be required to attend the Lectures on Chemistry and Practical Chemistry delivered in the School, the fees for which, 6 and 4 guineas respectively, will be a first instalment of the General Composition Fees. These classes will commence in October. Special classes for the Intermediate M.B., and for the First F.R.C.S. Examinations will be held, also commencing in October. For these, an extra fee of 10 guineas will be charged for the former and 7 guineas for the latter. Anatomy, Mr. Black and Mr. Stonham; Physiology, Dr. Abraham; Chemistry, Dr. Hake; Materia Medica, Dr. Murrell. Any of the above classes are open to other than Students of the School, on conditions to be learned on application to the Dean.

Scholarships and Prizes.—A Science Scholarship, value £60, is offered annually; the Guthrie and Entrance Scholarships, on alternate years, value £60; a Senior Scholarship, value £40, to Oxford and Cambridge students; and Two Entrance Scholarships, value £40. Entrance Scholarship, summer session, value £10. A £20 Entrance Scholarship is offered annually to Dental students. The Treasurer's Prize, an Exhibition in Anatomy, Physiology, and Chemistry, value £10 10*s.*, tenable for one year, for first-year men. The President's Prize, a Scholarship in Anatomy, Histology, and Physiology, value £21, given by his Grace the Duke of Westminster, President of the Hospital, to a student of the second year (to be styled Assistant Demonstrator). At the end of the fourth winter session, prizes of £5 each (books or instruments) in Clinical Medicine and Clinical Surgery. Frederick Bird Medal and Prize, value £15. Subjects of examination: Medicine, Midwifery, Diseases of Women and Children, and Pathology. Chadwick Prize for General Proficiency, £21 (books or instruments), to the most meritorious student or students of any year not exceeding the fifth. In most of the classes special prizes, value about 2 guineas each, are given.

LONDON SCHOOL OF MEDICINE FOR WOMEN, 30, Handel-street, Brunswick-square, W.C.—The winter session of this School, which is in connexion with the Royal Free Hospital, Gray's-inn-road, will begin on Oct. 1st, 1892, and will end on March 1st, 1893. The summer session will begin on May 1st, and will end on July 31st, 1893. No student will be admitted to the study of Medicine who has not completed her eighteenth year. The admission of students rests exclusively with the Executive Council.

Scholarships and Prizes.—The Executive Council offers annually a Scholarship of £30 to women preparing for the medical profession. The following scholarships will be offered for competition on Sept. 22nd and 23rd, 1892:—1. The Scholarship, value £30, open to all candidates who have passed a preliminary examination in Arts recognised by the General Medical Council. 2. The Jubilee Scholarship, value £25 a year for four years, open only to candidates willing to practise in India under the Countess of Dufferin's Fund. The Stuart Mill Scholarship is offered once in four years to ladies willing to practise Medicine in India in connexion with the National Association for Supplying Female Medical Aid to the Women of India. The United Kingdom Branch of the National Association for Supplying Female Medical Aid to the Women of India also provides funds for the Dufferin and Jubilee Scholarships, each of the value of £25 a year for four years, at the School, to students who will enter into a legal arrangement to practise in India under the Countess of Dufferin's Fund on the completion of their course of study. The Gilchrist Trustees offer a Scholarship of £50 a year for five years to the student of the School who takes the highest position in the Preliminary Scientific M.B. Examination of the University of London. Three Scholarships, each of the value of £100 a year for three years, will be offered yearly to girls under nineteen years of age on the first day of the examination, whose parents reside within the metropolitan area as defined in the Elementary Education Act, by the trustees of the St. Dunstan's charities. The holders must fit themselves for the practice of a profession, medical or otherwise. The Scholarships will be tenable at any place of higher education approved by the governors. The Helen Prideaux Memorial Fund (£505) has been invested, and the income derived from it will be given as a prize every second or third year to a graduate of the School, for the further prosecution of her medical studies, at the discretion of the trustees. There is also a small fund from which assistance can occasionally be given to students and to graduates who specially require pecuniary help, to obtain additional experience in operative midwifery. Prizes and Certificates of Honour are awarded in each class at the end of the session. The Wood Prize for Operative Midwifery, value £5 5*s.*, will be offered at the end of the winter session, 1892. Secretary, Miss Heaton.

METROPOLITAN ANCILLARY SCHOOLS OF MEDICINE.

THE following institutions offer a partial curriculum in the form of classes dealing with particular subjects, or adapted to special circumstances.

BETHLEM HOSPITAL.—This hospital is open for the admission of two Resident Clinical Assistants who have recently obtained their diplomas to practise Medicine and Surgery. They will be permitted to reside in the hospital for a term generally not exceeding six months, and will be provided with such apartments, rations, and attendance as the Committee shall consider reasonable. They will be under the direction of the Resident Physician, and will be elected by the Committee from candidates whose testimonials appear to be most satisfactory. A limited number of medical students who have completed the third year of study are allowed to attend the practice of the hospital free, and qualified practitioners may attend for a period of three months on payment of a fee.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Four House Physicians reside in the hospital for a period of six months. Pupils are admitted to the practice of the hospital; terms £1 1*s.* for one month; six months £5 5*s.*; perpetual £10 10*s.* Lectures and Clinical Demonstrations are given throughout the year by members of the medical staff on Wednesdays and Fridays at four. The medical practice of the hospital is recognised by the University of London, the Apothecaries' Society, and the Army and Navy and Indian Medical Boards. The hospital contains 321 beds in the two buildings.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park.—During the past year 1236 in-patients have been admitted, and the large number of 25,500 cases have been treated since the opening of the wards in 1855. The number of out patients treated during 1891 was 15,520, and 489,890 since the commencement of the institution in 1848. Information as to medical instruction can be obtained on application to the Secretary of the Clinical Sub-committee at the hospital. Consulting Physicians: Drs. J. Andrew and E. L. Birkett. Consulting Surgeon: Mr. J. Eric Erichsen, F.R.S. Physicians: Drs. J. C. Thorowgood, Eustace Smith, G. A. Heron, Vincent D. Harris, J. A. Ormerod, and E. Clifford Beale. Surgeon: Mr. J. F. C. H. Macready, F.R.C.S. Assistant Physicians: Drs. Harrington Sainsbury, T. Glover Lyon, Sir Hugh R. Beevor, Bart., W. J. Hadley, and E. H. Colbeck.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's-inn-road.—The hospital contains accommodation for seventeen in-patients, and has a very extensive out-patient department, which is open to all medical practitioners and students for the purpose of clinical demonstration and instruction during the hours of the surgeons' visits. During the past year 6250 out-patients and 288 in-patients were treated. Fee for three months' attendance, 3 guineas; for six months, 5 guineas. A course of lectures on the special diseases treated at this hospital will be delivered during the winter months by members of the staff. The date of these lectures is announced in the medical journals prior to their commencement. They are free to qualified practitioners and advanced students of medicine. Consulting Surgeon: Mr. Thomas Nunn. Surgeons: Mr. Lennox Browne, Dr. Arthur Orwin, Dr. Dundas Grant, Mr. Percy Jakins, and Mr. T. W. Carmalt Jones. Assistant Surgeon: Mr. Walter Fowler and Mr. Wyatt Wingrave. Registrar and Pathologist: Dr. Holloway. Dental Surgeon: Mr. George Wallis. Defects of Speech: Mr. William Van Praagh. Secretary: Mr. Richard Kershaw.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-bridge-road (instituted 1816).—Consulting Physicians: Dr. Wilks, Dr. John Williams, Dr. G. V. Poore, and Dr. Geo. Roper. Consulting Surgeon: Arthur Durham. Physicians: Drs. W. Gow, Alex. Haig, Septimus Sunderland, and S. W. Wheaton. Surgeon: Mr. H. C. Jacobson. Surgeon-Dentist: Mr. Alfred Barnard. Resident Medical Officer: Dr. Richards. Assistant Surgeon: Marmaduke Sheild. Secretary: Mr. R. G. Kestin. Advanced students in Medicine, and such practitioners as may desire it, are permitted to attend the practice of this hospital gratis. If a certificate signifying such attendance be required, the sum of £5 5s. must be paid to the physicians and surgeons in ordinary conjointly. Anæsthetist and Registrar: Dr. Fisher. Consulting Surgeon-Dentist: Mr. Walter Whitehouse.

HOSPITAL FOR WOMEN, Soho-square, W.—In connexion with this institution there has been for some years a well-organised Clinical Department, which has lately been enlarged under the title of the London School of Gynæcology. To meet the want increasingly felt by medical men of an accurate knowledge of the ordinary diseases of women, gentlemen are appointed every three months to act as clinical assistants to the physicians and surgeons seeing out- and in-door patients. The appointments are nominally "open to qualified medical men and to students of medicine after their third year," but in the selection of candidates preference is naturally given to gentlemen already engaged in practice. The large numbers of out-patients afford quite unrivalled opportunities for practical instruction in the use of gynæcological instruments, and for the study of diseases peculiar to women. A course of lectures on the Anatomy and Physiology of the Female Pelvic Organs is given during each quarter by a member of the Staff. Clinical lectures are given in the Operating Theatre on alternate Thursdays, throughout the winter and summer sessions. Valuable prizes are given, after examination, annually, open to past and present clinical assistants. Fee for the three months' course, £8 8s. Any further information can be obtained by letter addressed to the Dean at the hospital.

COOKE'S SCHOOL OF ANATOMY.—The school having been recognised by the London University and the Society of Apothecaries, a department for Curriculum work has been formed, in which instruction is given meeting the requirements of the first two years of medical studies. Special advantages are offered in regard to practical work in Anatomy and Physiology, on the lines in respect of the former subject of Mr. Cooke's "Dissection Guides." It is intended, however, in regard to the Curriculum to take on only a small number of earnest workers, the object being to attract men who, on their becoming efficient in practical work, will be able to act as prosectors and physiological assistants to the school, and thus to take part in the "Supplementary Teaching," which is the main feature of the institution. In encouragement of such the Bland Sutton Scholarship is offered, conferring the privilege of free education for the first two years of the Medical Curriculum. By decision of the Royal Colleges of Physicians and Surgeons, gentlemen rejected at their Anatomical and Physiological Examinations (Primary R.C.S., or Second Conjoint) can get "signed up" from this school for the term of six months' supplementary work they are now required to put in before re-examination. This school is also intended to meet the requirements of qualified practitioners and advanced students — i.e., gentlemen wishing either to obtain some of the higher qualifications, or to compete for appointments in Her Majesty's Army, Navy, and Indian Medical Services. The instruction is given on the dissected and undissected body, with normal and pathological specimens, microscopical preparations, chemical, physiological, and surgical apparatus, splints, &c. The school possesses a good collection of physiological apparatus, allowing of the demonstration to the class of the great bulk of the usual practical exercises in Physiology; also chemical apparatus, allowing every student not only so see, but to repeat for himself, the analysis of the principal food-stuffs, and fluids and solids of the body, and also all the usual reactions, tests, &c. Gentlemen preparing for the Higher Examinations receive special instruction in the more difficult subjects, and have the advantage of personally repeating the practical exercises in Physiology above alluded to. The operations of Surgery are performed by the students on the dead body. Private address: 40, Brunswick-square, W.C.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road. (Established 1814.)—This hospital has recently been enlarged by the addition of a very complete out-patients' department, and also by the erection of a new wing, which provides accommodation for 80 in-patients. Expenditure for 1891, £6322; income (including legacies), £7880.

ROYAL EAR HOSPITAL, Frith-street, Soho-square, W. (Founded 1816, for the special treatment of Diseases of the Ear.)—During 1891, 153 in-patients and 2742 out-patients were treated; attendances 8297. The clinique of the hospital is open to medical practitioners and advanced students by previous arrangement with the Secretary. Surgeons: Urban Pritchard, M.D., F.R.C.S., Farquhar Matheson, M.B., C.M., and G. L. Cheatle, F.R.C.S. Secretary: M. C. Puddy.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road. Consulting Physician: Sir Andrew Clark, Bart., M.D. Consulting Surgeons: Sir W. S. Savory, Bart., and William Adams. Physicians: Drs. Cholmeley, Burnet, Beale, Beevor, Syers, and Galloway. Obstetric Physicians: Drs. W. S. A. Griffith and L. Remfry. Surgeons: Messrs. J. Macready, C. B. Lockwood, H. W. Allingham, P. T. B. Beale, and Raymond Johnson. Ophthalmic Surgeon: Mr. A. Stanford Morton. Aural Surgeon: Mr. W. R. H. Stewart. Throat Department: Mr. W. Spencer Watson. Skin Department: Dr. Cook. Dental Surgeon: Mr. Traer Harris. The new buildings in the Holloway-road have been recently erected, and the practice of the hospital is open to qualified practitioners and senior students. Clinical assistants are appointed in the wards and out-patient department. Further information can be obtained on application to the Hon. Secretary of the Medical Committee, Dr. Syers, 3, Devonshire-street, W.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W. (Established 1873.)—Physicians: Dr. B. W. Richardson, F.R.C.P., F.R.S.; Dr. J. J. Ridge. Surgeon: Dr. W. J. Collins, F.R.C.S. Dental Surgeon: Mr. A. Alexander. The hospital contains 110 beds. The in-patients average 750 and the out-patients 3500 a year. The medical and surgical practice of the hospital is open to students and practitioners. Special departments for Ophthalmology and Gynæcology. Operations, Mondays and Thursdays, 3.30. Classes will be held during the winter and summer sessions for students preparing for the final examinations at the Colleges and the Universities. Appointments, vacancies for which are advertised in the medical journals: Registrar and Pathologist; Senior and Junior House Surgeons. For particulars as to hospital practice and classes apply at the hospital to Dr. W. J. Collins.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Albany Memorial), Queen-square, Bloomsbury.—The new hospital, with the Finchley branch, contains 170 beds and cots. The physicians attend every Monday, Tuesday, Wednesday, and Friday, at 2.30 P.M. In- and out-patient practice and electrical-room treatment at that hour. Physicians: Drs. Ramskill, Hughlings Jackson, Buzzard, and Bastian. Physicians for Out-patients: Drs. W. R. Gowers, D. Ferrier, Ormerod, and Beevor. Assistant Physicians: Drs. James Anderson and Tooth. Surgeons: Messrs. Victor Horsley and C. A. Ballance. Ophthalmic Surgeons: Messrs. R. Brudenell Carter and Marcus Gunn. Aural Surgeon: Mr. A. E. Cumberbatch. Laryngologist: Dr. Felix Semon. Anæsthetist: Dr. Dudley Buxton. Pathologist and Registrar: Dr. Taylor. House Physicians: Drs. Bowman and Wood. Medical practitioners and senior students may attend the practice after signing their names in the clerk's office. The new wing, containing a clinical theatre and operating room, two small wards for surgical cases, a surgeons' room, an anæsthetic room, and together with a library and museum, is now completed.

Queen Charlotte's Lying-in Hospital and Midwifery Training School, Marylebone-road, N.W.—Consulting Physician: Dr. Brodie. Consulting Surgeons: Mr. H. Lee and Sir William Mac Cormac. Physicians to In-patients: Dr. W. Hope and Dr. W. C. Grigg. Physicians to Out-patients: Dr. W. S. A Griffith and Dr. W. Rivers Pollock. This hospital, which has been recently enlarged, receives nearly 1000 patients annually, besides having a large out-patient department. Medical pupils are received at all times of the year. Pupils have unusual opportunities of seeing obstetric complications and operative midwifery, on account of the very large number of primiparous cases — upwards of three-fourths of the total admissions. Clinical instruction is given on the more important cases which present themselves. Certificates of attendance at this hospital are recognised by all universities, colleges, and licensing bodies. Pupil midwives and monthly nurses are received and specially trained. Fees: Medical Students, £3 3*s.* for one week; £5 5*s.* for two weeks; £6 16*s.* 6*d.* for four weeks, exclusive of board and lodging. Pupil Midwives, £26 5*s.* for three months; Pupil Nurses, £15 15*s.* for twelve weeks, and £11 0*s.* 6*d.* for eight weeks; these include board and lodging. For further particulars, application should be made to Mr. G. Owen Ryan, Secretary, at the Hospital.

Seamen's Hospital Society, Dreadnought Hospital, Greenwich, S.E. (235 beds). — Royal Victoria and Albert Dock Hospital, E. (18 beds). Dispensaries: East India Dock-road, E., and Gravesend. This institution is established for the relief of seamen of all nations. Casualties are received at all hours. Apartments are provided in the house of the Principal Medical Officer for students. Honorary Consulting Physicians: Dr. Robert Barnes, F.R.C.P., and Sir Richard Quain, Bart., F.R.C.P. Visiting Physicians: Dr. John Curnow, F.R.C.P., and Dr. John Anderson, C.I.E., M.R.C.P. Visiting Physician to the Royal Victoria and Albert Dock Hospital: Dr. Patrick Manson, LL D., M.R.C.P. Honorary Consulting Surgeon: Mr. J. N. Davies-Colley, F.R C.S. Visiting Surgeon: Mr. G. Robertson Turner, F.R C S. Principal Medical Officer: Mr. W. Johnson Smith, F.R.C.S. Ophthalmic Surgeon: Mr. D. S. Gunn, F.R.C.S. House Physician: Dr. M. Spencer, M.R.C.P. House Surgeon: Mr. Arthur Jervis, M.B., B S, M.R.C.S. Branch Hospital:—House Surgeon: Dr. C. H. Preston, L.R.C.P. Junior House Surgeon: Dr. Frank L. Wod, Ch.B. Gravesend Dispensary:—Surgeon: Mr. O. R. Richmond. Secretary: Mr. P. Micelli.

Hospital for Sick Children, Great Ormond-street, Bloomsbury, W.C., and Cromwell House, Highgate.—The hospital contains 127 beds, and 52 beds at the country branch, forming a total of 179. There are ten Clinical Clerkships, and the number will shortly be increased to sixteen, tenable by all students who have taken out a ticket for the hospital. Senior students should not forget that there is here a thoroughly organised system of clinical instruction both in the medical and surgical wards. Lectures are given at intervals by members of the staff. The hospital offers great facilities for post-graduate teaching and for hospital practice.

Royal London Ophthalmic Hospital, Moorfields — The hospital, founded in 1804, and considerably enlarged in 1876, now contains 100 beds for patients, which were occupied during last year by 1892 persons. The out-patients are yearly over 25,000; attendances, 109,756 in 1891. Operations are performed daily from 10 to 1 o'clock, and three surgeons attend on each day. Students are admitted to the practice. Fee for six months, £3 3*s.*; perpetual, £5 5*s.* Classes, demonstrations, and lectures are periodically given, to which perpetual students are admitted free. Students of the hospital are eligible for the office of house surgeon, or may be appointed clinical and junior assistants. The Secretary, Mr. Robert J. Newstead, will furnish further information, as may be desired.

Royal Westminster Ophthalmic Hospital, King William-street, West Strand. — The hospital contains 50 beds: and the patients, who number 10,000 annually, are seen at 1 o'clock, and operations performed daily at 2 o'clock. The following are the days of attendance of the surgeons: Mr. Power and Mr. Rouse (Consulting Surgeons); Mr. Cowell and Mr. Juler, Wednesday and Saturday; Mr. Macnamara and Mr. Wainewright, Tuesday and Friday; Mr. Hartridge, Mr. Frest, and Mr. Dodd, Monday and Thursday. The practice of the hospital is open to practitioners and students. Fees for six months, £3 3*s.*; perpetual, £5 5*s.* Students of the hospital are eligible for the post of house surgeon. Special demonstrations and lectures will be given during the session, commencing in October; for details see weekly journals. Clinical Assistants (who must be duly qualified) to the Surgeons are appointed for periods of six months. Secretary: Mr. T. Beattie-Campbell.

Royal Orthopædic Hospital, 297, Oxford-street.—Surgeons: Messrs. B. E. Brodhurst, H. A. Reeves, and Charles Read. Assistant Surgeon: Mr. H. F. Baker. House Surgeon: Mr. C. Ernest Baker. Secretary: Mr. Maskell. Operations on Mondays at 2 P.M. The hospital is open to all legally qualified practitioners. Pupils are admitted to witness the practice of the hospital on the following terms: six months, £3 3*s*; twelve months, £5 5*s.*; perpetual, £10 10*s.*

St. Peter's Hospital for Stone and Urinary Diseases. Henrietta-street, Covent-garden.—Established 1860. New Hospital built 1882. Honorary Surgeons: Mr. F. R. Heycock, Mr. F. Swinford Edwards, Mr. E. Hurry Fenwick, Mr. Reginald Harrison. Pathologist: Mr. E. Hurry Fenwick. The hospital contains 24 beds and 3 private wards. Consultations are held and operations are performed each Wednesday and Friday at 2 P.M. A course of lectures upon Urinary Diseases is delivered every year by members of the staff, whilst clinical instruction in the wards and out-patient department is given daily throughout the year. The attendance of practitioners and senior students is invited. A limited number of clinical assistants is appointed to the out-patients.

College of State Medicine, 101, Great Russell-street, W.C.—The usual three and six months' courses in Hygiene and Public Health by Professor A. Wynter Blyth will be given during the winter session. The Public Health and Bacteriological Laboratories will be open daily from 10 to 4 P.M. from Monday, Oct. 3rd. Gentlemen can obtain tickets for either laboratory, or enter for a three or six months' course. Provision is made for gentlemen undertaking original research.—*Research Scholarship:* A Scholarship of the value of £100 for one year will be awarded to the candidate best qualified to carry out an original research by the use of bacteriological and chemical methods. Applications should reach the Honorary Secretary not later than Oct. 15th. Candidates must be prepared to conduct their work in the College laboratories, and devote five hours a day to the same. For further particulars address the Hon. Secretary, W. Robert Cornish, Esq.

Volunteer Medical Staff Corps (London Companies), 62, St. Martin's-lane.—Hon. Commandant: Surgeon-General Sir William Guyer Hunter, K.C.M.G., M.P., Q.H.S. Commandant: Surgeon-Lieutenant-Colonel A. T. Norton. The Volunteer Medical Staff Corps bears the same relation to the Volunteer Army as the Medical Staff Corps bears to the regular Army. The course of training has the great advantage of affording, in addition to a knowledge of ordinary military duties, special ambulance instruction useful in all ranks of life. All who have gone through the ranks of this corps are capable of rendering valuable aid in any accident, and in cases of emergency may be the means of saving lives which would otherwise be lost. In addition to the Company and Battalion drills of an ordinary infantry corps, the special training includes stretcher, waggon, and litter drill; the use of improvised seats and stretchers; the use and application of bandages, splints, &c; lectures by the officers on first aid to the injured, and on the elements of anatomy, physiology, hygiene, and nursing. There is also a Shooting Club in the Corps, in which instruction in and facilities for practice of rifle shooting is given. Lectures are delivered during the winter session The Adjutant, Surgeon-Captain J. P. S. Hayes, will give any information respecting the above on application to the head-quarters, 62, St. Martin's-lane, W.C.

School of the Pharmaceutical Society of Great Britain. — Chemistry: Professor Dunstan, M.A., F.I.C. Practical Chemistry: Professor Attfield, Ph.D., F.R.S., F.I.C. Botany: Professor Green, M.A., B.Sc., F.L.S Materia Medica: Mr. Greenish, F.I.C., F.L.S. Practical Pharmacy: Mr. Joseph Ince, F.L.S. The session commences on Wednesday, Oct 5th, at 10 A.M. Medical students, or pupils intending to enter the medical profession, are admitted to the lectures &c., and to courses of Practical Chemistry. Application for admission to the school, or for further information, may be made to the Dean of the school, Professor Dunstan, 17, Bloomsbury-square, London, W.C. The introductory address will be delivered on Wednesday, Oct. 5th, at 3 P.M.

City School of Chemistry and Pharmacy, Limited, 27, Chancery-lane, W.C.—This school was established in 1882 for the advancement of pharmaceutical education. Lecturers and Demonstrators: Mr. Maurice Williams, Principal; Mr. Thomas A. Ellwood, F.I.C., F.C.S., &c.; Mr. Martin J. Cole, Microscopist; Mr. Herbert J. Killick, Curator. Subjects: Theoretical and Practical Chemistry, Chemical Physics, Theoretical and Practical Pharmacy, Materia Medica and Therapeutics. Lectures and Demonstrations are given daily by the Principal, and the student is allowed unlimited laboratory and pharmacy practice. Application for particulars should be made to the Principal.

South London School of Pharmacy, Limited.—This school was established in 1868 and incorporated in 1888 as a public company. The managing director is Dr. John Muter, M.A., F.R.S.E., F.C.S., F.I.C., who lectures on Chemistry, Physics, and Botany. The other lecturers are: Mr. W. H. Dodd, F.C.S. (Materia Medica and Pharmacy); Mr. L. De Koningh, F.I.C., F.C.S. (Analytical Chemistry); assisted by a staff of competent demonstrators. The department most valuable to medical students is the Medical and General Science Tutorial Department. The subjects taught are: For First B.Sc. and Preliminary Scientific: Inorganic and Practical Chemistry. For First M.B.: Organic Chemistry, Analysis and Pharmaceutical Chemistry and Materia Medica. For Apothecaries' Hall and the Conjoint Colleges: Chemistry, Botany, and Materia Medica. For Pass M.B. Lond.: Practical Toxicology and Forensic Medicine. For Sanitary Science qualifications: Practical Chemistry and Microscopy. Particulars as to fees may be had from the Secretary, 325, Kennington-road, London, S.E.

Middlesex College of Chemistry and Pharmacy, 40, Charlotte-street, Portland-place, W.—The special classes for medical students in Chemistry, Materia Medica, and Pharmacy started two years ago have proved very successful. The premises, which were erected by the late Dr. W. de la Rue, F.R.S., are well suited for the purpose for which they are used.

Royal College of Science (with which is incorporated the Royal School of Mines).—Biology: Professor Huxley, Mr. Howes and (up to Sept. 22nd) Dr. Scott. Chemistry: Dr. Thorpe and Mr. Wynne. Physics: Professor Rücker. Geology: Professor Judd. The arrangement which this school had with certain hospitals has fallen through, and the courses are no longer available for their purpose.

Birkbeck Literary and Scientific Institution, Bream's-buildings, Chancery-lane.—Special arrangements have been made for the instruction of students in Chemistry, Biology and Experimental Physics, in conformity with the requirements of the Intermediate and Final B.Sc., the Preliminary Scientific and the Intermediate M B. Examinations of the University of London. The lectures will be fully illustrated by experiments, and provision will be made for individual practical work in each subject. For particulars apply to the Secretary.

HOSPITALS AFFORDING FACILITIES FOR CLINICAL OBSERVATION.

All Saints Children's Hospital, 4, Margaret-street, and 59, Mortimer-street, W.—Founded by the All Saints Sisterhood in 1882 for Incurable Diseases. Twelve beds for boys and eight for girls under the age of ten years.

East London Hospital for Children and Dispensary for Women, Glamis-road, Shadwell, E.—Physicians: Dr. Eustace Smith, Dr. Horatio B. Donkin and Dr. J. A. Coutts. Surgeons: Mr. R. W. Parker and Mr. L. A. Dunn. Assistant Physicians: Dr. Dawson Williams and Dr. H. T. Campbell. Assistant Surgeon: Mr. H. B. Robinson. Administrator of Anæsthetics: Mr. Thomas Bird. Resident Medical Officer: Dr. Ernest Hare. House Surgeon: Dr. Crosby. House Physician: Mr. G. Norman. Secretary: Samuel Whitford. Lady Superintendent: Miss F. A. Davies. The hospital maintains 102 cots, and on an average 120 out-patients are seen daily.

Evelina Hospital for Sick Children, Southwark-bridge-road, S.E.—Consulting Physicians: Dr. W. S. Playfair, Dr. James F. Goodhart and Dr. Fredk. Taylor. Consulting Surgeons: Mr. W. Morrant Baker and Mr. H. G. Howse. Physicians: Drs. Nestor Tirard, Fred. Willcocks, G. A. Carpenter and W. Soltau Fenwick. Surgeons: Messrs. R. Clement Lucas, G. H. Makins, F. S. Eve and J. H. Targett. Ophthalmic Surgeon: Dr. W. A. Brailey. Dental Surgeon: Mr. R. Denison Pedley. Senior Resident Medical Officer: Mr. T. G. Stevens. Junior Resident Medical Officer and Registrar: Mr. Hugh Ralph. Hon. Secretary: Dr. L. Dobree Chepmell.

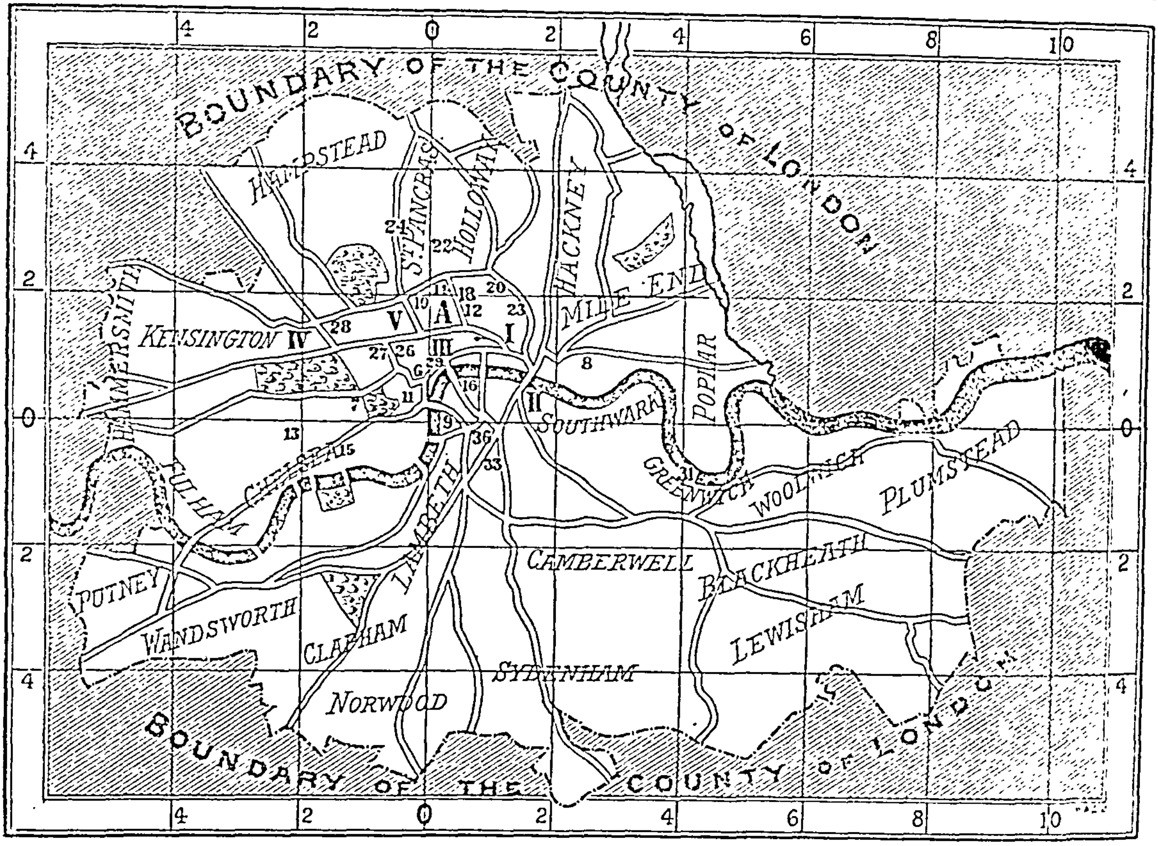
Victoria Hospital for Children, Chelsea, S.W. (with which is incorporated St. Gabriel's Hospital for Infants).—The hospital contains 90 beds and has a large out-patient department (nearly 1000 weekly); the home at Broadstairs has 50 beds, and the home at Churchfields 16 beds. Consulting Physician: Dr. W. H. Walshe. Consulting Surgeons: Mr. Erichsen and Mr. Cowell. Physicians: Dr. Ridge Jones and Dr. Dawtrey Drewitt. Physicians to the out-patients: Drs. Montague Murray, Walter Carr, W. Wallis Ord and Humphry D. Rolleston. Surgeons: Messrs. Pick and Clutton. Surgeons to the Out-patients: Messrs. D'Arcy Power and Raymond Johnson. Ophthalmic Surgeon: Mr. W. J. Holmes Spicer. Dental Surgeon: Mr. Percy Smith. Anæsthetist: Paul Frank Moline. M.D. House Surgeon: Mr. H. G. G. Cook House Physician: Dr. R. C. M. Colvin-Smith. Secretary: Captain W. C. Blount, R.N. Out-patients are seen daily as under:—Medical and surgical cases: Daily, at 12.30, and every afternoon at 1.30. Dental cases: Saturdays, at 9 A.M.

West London Hospital, Hammersmith-road, W.—This hospital has 101 beds. About 1400 in-patients and 20,000 out-patients, whose attendances number 60,000, are treated annually. There are appointments for two House Physicians and two House Surgeons, with board and residence tenable for six months. Also appointments for a limited number of Clinical Assistants. Physicians: Drs. D. W. C. Hood, F. G. D. Drewitt and W. P. Herringham. Physician for Diseases of Women: Dr. Albert Venn. Surgeons: Messrs. C. B. Keetley, F. Swinford Edwards and W. Bruce Clarke. Surgeon for Diseases of the Eye: Mr. B. J. Vernon. Assistant Physicians: Dr. J. B. Ball, Seymour Taylor and A. E. Garrod. Assistant Physician for Diseases of Women: Dr. J. A. Mansell-Moullin. Assistant Surgeons: Messrs. S. Paget, L. A. Bidwell and G. L. Cheatle. Assistant Surgeon for Diseases of the Eye: Mr. H. P. Dunn. Surgeon-Dentist: Mr. H. Lloyd Williams. Pathologist: Mr. H. P. Dunn. Physician-in-Charge of Throat and Nose Department: Dr. J. B. Ball. Surgeon-in-Charge of Aural Department: Mr. S. Paget. Surgeon-in Charge of Skin Department: Mr. L. A. Bidwell. Surgeon-in Charge of Orthopædic Department: Mr. C. B. Keetley. Electrician: Dr. F. O. Buckland. Administrators of Anæsthetics: Messrs. T. Gunton Alderton and Rickard W. Lloyd. Secretary: Mr. R. J. Gilbert.

North-Eastern Hospital for Children, Hackney-road, N E. City Offices: 27, Clement's-lane, E C.—This hospital contains 57 beds. Last year 508 in-patients and 13,722 out-patients (representing 48,909 attendances) were relieved. Consulting Physicians: Drs. A E. Sansom and W. Cayley. Consulting Surgeons: Messrs. Jonathan Hutchinson, R. J. Godlee and Waren Tay. Physicians: Drs. F. C. Turner, C. E Armand Semple and W. Pasteur. Surgeons: Messrs. Bilton Pollard and H. Percy Dean. House Surgeons: (Senior) Mr. S. H. Bates, (Junior) Mr. H. G. Adamson. Lady Superintendent: Miss E. M. Curno. Secretary: Mr Alfred Nixon. The surgeons attend on Wednesday and Friday at 9 A.M.; the physicians daily at 1.30 P.M.

North-West London Hospital, Kentish Town-road.—This hospital provides 47 beds and has a large out-patient department. There are appointments for Two Resident Medical Officers, with board, residence and washing. The Senior Medical Officer also receives £50 per annum. Honorary Medical Staff:—Physician: Donald W. C. Hood, M.D. Surgeon: Frederic Durham, M.B.Lond., F.R.C.S. Assistant Physicians: Harry Campbell, M.D., B.Sc. Lond., M.R.C P.; Walter K. Sibley, B.A., M.B., B.C Cantab., M.R.C.S; Leonard G. Guthrie, M.A., M.B., B.Ch.Oxon., M.R.C.P., M.R.C S. Assistant Surgeons: M. P. Mayo Collier, M S., M.B.Lond., F.R.C.S.; James Black, B.A, M B.Cantab., F.R.C.S.; C. Gordon Brodie, F.R.C.S. Accessory Staff: J. Herbert Stowers, M.D.; John Shaw, M.D.Lond; Wm. J. Collins, M.D., M.S., B.Sc.Lond., F.R.C.S; C. F. Rilot, L.R.C.P., M.R.C S., L.D.S. Resident Medical Officer: Dr. C. D. Sutherland. Assistant Medical Officer: Dr. C. N. Hamper. Secretary: Mr. Alfred Craske.

MAP OF THE COUNTY OF LONDON, SHOWING MEDICAL SCHOOLS.



EXPLANATION.

The reference figures indicate distances in miles measured from the Palace of Westminster.

I. *Medical Schools with a Complete Curriculum.*
  α. With Residential Colleges.
    I. St. Bartholomew's Hospital.
    II. Guy's Hospital.
    III. King's College.
    IV. St. Mary's Hospital.
    V. Middlesex Hospital.
  β. Without Residential Colleges.
    6. Charing-cross Hospital.
    7. St. George's Hospital.
    8. London Hospital.
    9. St. Thomas's Hospital.
    10. University College Hospital.
    11. Westminster Hospital.
    12. Royal Free Hospital (for Women only).

II. *Ancillary Medical Schools affording instruction in particular subjects &c.*
    13. Brompton Hospital for Consumption.
    14. Central London Throat and Ear Hospital.
    15. Hospital for Women, Chelsea.
    16. Royal Hospital for Children and Women.
    17. Hospital for Women (included in Group A).
    18. Mr Thomas Cooke's School.
    19. Dental Hospital of London (included in Group A).
    20. Royal Hospital for Diseases of the Chest.
    21. Royal Ear Hospital (included in Group A).
    22. Great Northern Central Hospital.
    23. Royal London Ophthalmic Hospital.
    24. London Temperance Hospital.
    25. National Hospital for Paralysed and Epileptic (included in Group A).
    26. Normal School of Science.
    27. Royal Orthopædic Hospital.
    28. Queen Charlotte's Hospital.
    29. St. Peter's Hospital for Stone.
    30. School of Pharmacy (included in Group A).
    31. Seamen's Hospital.
    32. Hospital for Sick Children (included in Group A).
    33. South London School of Pharmacy.
    34. College of State Medicine (included in Group A).
    35. Royal Westminster Ophthalmic Hospital.
    36. Bethlem Hospital.

A represents a group of Hospitals too thickly clustered at that spot for particularisation, and includes Nos. 17, 19, 21, 25, 30, 32, and 34.

ENGLISH PROVINCIAL HOSPITALS AND MEDICAL SCHOOLS.

Mason College, Birmingham.—Two Ingleby Scholarships are offered annually after examination in Obstetric Medicine and Surgery and Diseases of Women and Children. The Scholarships are open to students who have completed two years of their curriculum in this College. One or more Sydenham Scholarships will be offered annually, of the value of 30 guineas each. The orphan sons of former students of the Birmingham Medical School have priority of election. No Sydenham scholars are elected whose age exceeds twenty-three years on the day of election. The Scholarships are held for three years, subject to good behaviour. A Queen's Scholarship will be offered annually, of the value of 30 guineas. It may be held for three years, one-third being paid each year, subject to good behaviour. A Sands Cox Scholarship is offered annually, of the same value as the last, and is held under similar conditions. The Russell Memorial Prize is awarded annually, after examination in Nervous Diseases. There are Faculties of Arts, Science and Medicine, and students are prepared for the various examinations of the University of London. The medical courses qualify for the diplomas of all Licensing Bodies and for the degrees in Medicine and Surgery of British Universities. There are various Scholarships, Entrance and otherwise. The Dental Department, in conjunction with the General, Queen's, and Dental Hospitals, affords a complete curriculum for all Dental diplomas. The Library contains upwards of 22,000 volumes. Syllabuses containing full information as to the various courses of instruction, lecture days and hours, fees, scholarships &c., will be forwarded on application to the Registrar.

GENERAL AND QUEEN'S HOSPITALS, BIRMINGHAM.—*General Hospital:* Consulting Physicians: Dr. Fletcher, Sir W. Foster and Dr. Wade. Consulting Surgeons: Mr. Crompton, Mr. Baker and Mr. Pemberton. Physicians: Drs. Rickards, Saundby, Simon and Wilson. Surgeons: Messrs. Jolly, Chavasse, Barling and Haslam. Obstetric Officer: Dr. Malins. Assistant Physicians: Drs. Short and Russell. Assistant Surgeons: Messrs. Heaton and Jordan. *Queen's Hospital:* Consulting Physician: Sir James Sawyer. Consulting Obstetric Surgeon: Mr. John Clay. Consulting Surgeon: Mr. Furneaux Jordan. Physicians: Drs. Carter, Suckling and Foxwell. Surgeons: Messrs. Wilders, Bennett May, Jordan Lloyd and Marsh. Ophthalmic Surgeon: Mr. Priestley Smith. Obstetric Surgeon: Dr. Purslow. Dental Surgeon: Mr. Charles Sims. Physician for Out-patients and Pathologist: Dr. Kauffmann. Casualty Surgeons: Messrs. Morrison and Clayton.

BRISTOL SCHOOL OF MEDICINE (affiliated to University College, Bristol).—Students can complete in Bristol the entire course of study required for the Medical and Surgical degrees of the University of London, and for the diplomas of the Royal College of Physicians of London and the Royal College of Surgeons of England, the Apothecaries' Society of London, and the Army and Navy Boards. The lectures and instructions given at University College, Bristol, are adapted to the various Preliminary Arts Examinations above referred to, and also to the Matriculation and Preliminary Scientific Examinations of the University of London; while the Medical School, the Royal Infirmary and the General Hospital together provide for every detail of the professional curriculum required by the University of London and the above examining boards. All necessary information may be obtained from the Dean of the Bristol Medical School, Dr. Markham Skerritt.

BRISTOL ROYAL INFIRMARY (founded 1735).—264 beds. Physicians: Drs. Shingleton Smith, Waldo, Shaw, and Prowse. Surgeons: Messrs. Prichard, Greig Smith, Harsant, and Bush. Ophthalmic Surgeon: Mr. Cross. Obstetric Physician: Dr. Walter Swayne. Dental Surgeon: Mr. Ackland. Assistant Physician: Dr. Watson Williams. Assistant Surgeons: Mr. Munro Smith and Dr. James Swain. Hon. Pathologist: Dr. Edgeworth. House Surgeon: Mr. W. J. Hill. House Physician: Mr. Ormerod. Secretary and House Governor: Dr. Shekleton, D.S.G.

Scholarships and Prizes.—Two Entrance Scholarships, 35 guineas and 10 guineas, awarded annually in October, after examination in general subjects; Surgical and Medical Suple Gold Medals, 5 guineas each, with 7 guineas added in money; Clark Prize, 15 guineas; Crosby Leonard Prize, 7 guineas; Tibbitts Prize, 9 guineas; Midwifery Prize, 5 guineas in books; Six Pathological Prizes, 3 guineas each.

Dressers reside in the house in weekly rotation, and have charge of all casualties under the supervision of the house surgeon. Special instruction (including dresserships) for first-year students in the out-patient department. Class instruction in the wards by the physicians and surgeons on five days a week, in addition to the regular clinical lectures. Clinical Clerkships and Dresserships, 5 guineas for each six months. Perpetual Medical and Surgical Practice, 35 guineas in one sum. Special departments for Diseases of Women, the Eye, Ear, Throat, &c., with Clerkships and Dresserships attached. One or two Pathological Clerks are appointed every four months, who perform all post-mortem examinations. There is a large museum and well-stocked library.

Further information can be obtained from Dr. Arthur B. Prowse, Dean of the Faculty.

BRISTOL GENERAL HOSPITAL.—200 beds. Physicians: Drs. Markham Skerritt, Harrison, and Baron. Physician-Accoucheur: Dr. Lawrence. Surgeons: Messrs. Lansdown, Dobson, Pickering, and Penny. Ophthalmic Surgeon: Mr. Walker. Assistant Physician: Dr. Clarke. Assistant Surgeon: Mr. Barclay. Assistant Obstetric Physician: Dr. Newnham. Registrar: Mr. Morton. Anæsthetist: Mr. R. G. L. Lansdown. Dental Surgeon: Mr. Genge. House Surgeon: Dr. Solly. Physician's Assistant: Mr. Carter. Assistant House Surgeon: Mr. Star. Clinical Clerkship, six months, £5 5s. Dressership, six months, £5 5s. Obstetric Clerkship, three months, £3 3s. Special clinical instruction is given in Diseases of the Skin, Eye, Ear, and Throat, also in Diseases of Women and in Dental Surgery. Further information may be obtained of the Secretary, at the hospital, or from Dr. Markham Skerritt, Dean of the Hospital Faculty.

Scholarships and Medals.—Lady Haberfield Entrance Scholarship: This scholarship, founded in 1875, of the value of about £30 the interest of £1000 bequeathed for the purpose by the late Lady Haberfield, is awarded annually at the commencement of the winter session, after a competitive examination in subjects of general education. Second Entrance Scholarship: An additional Entrance Scholarship of the value of £20 is awarded when more than six candidates present themselves. Clarke Scholarship: A Surgical Scholarship, of the value of £15, founded by H. M. Clarke, Esq., of London, is awarded annually at the end of the winter session, after an examination in Surgery. Sanders Scholarship: A Scholarship founded by the late John Nash Sanders, Esq., of the value of £22 10*s.*, is awarded annually at the end of the winter session, after examination in Medicine, Surgery, and Diseases of Women. Martyn Memorial Pathological Scholarships, founded in 1878, by public subscription, in memory of the late Dr. Samuel Martyn, Physician to the Hospital. Two Scholarships, each of the value of £10, are awarded annually; one at the end of the summer session, and one at the end of the winter session. A student may, at the option of the Faculty, hold both these Scholarships. After a competitive examination in Pathology and Morbid Anatomy, the successful candidate is appointed Pathological Clerk to the hospital for the term of six months. Committee Gold Medal: This medal, presented by the committee of the hospital, is awarded annually at the end of the winter session to the student of the fourth year who has most distinguished himself during his career at the hospital and medical school. Committee Silver Medal: This medal, presented by the committee of the hospital, is awarded annually at the end of the winter session to the next most distinguished student of the fourth year. The rules relating to the several Scholarships may be had on application.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—Clinical Lectures in Medicine and Surgery, in connexion with the Cambridge Medical School, are delivered at this hospital twice a week during the academical year; and practical instruction in Medicine and Surgery in the wards and out-patients' rooms is given by the physicians and surgeons daily, during the vacations as well as term time. Instruction is also given in all the special modes of medical and surgical investigation. Clinical Clerks and Dressers are selected from students according to merit, and without payment. The composition fee for pupilship is 8 guineas.

UNIVERSITY OF DURHAM COLLEGE OF MEDICINE, Newcastle-upon-Tyne.—The following Scholarships and Prizes are awarded annually:—A University of Durham Scholarship, value £100, for proficiency in Arts, awarded to full students in their first year. The Dickinson Scholarship, value the interest of £400, and a Gold Medal, for Medicine, Surgery, Midwifery, and Pathology. The Tulloch Scholarship, value the interest of £400, for Anatomy, Physiology, and Chemistry. The Charlton Scholarship, value the interest of £700, for Medicine. The Gibb Scholarship, value the interest of £500, for Pathology. The Goyder Memorial Scholarship (at the Infirmary), value the interest of £325, for Clinical Medicine and Clinical Surgery. The Luke Armstrong Memorial Scholarship, value the interest of £680. The Stephen Scott Scholarship for promoting the study of Hernia and allied subjects, value the interest of £1000. At the end of each session a Prize of Books and Honours Certificates are awarded in each of the regular classes. Assistant Demonstrators of Anatomy, receiving each an honorarium of £5, an Assistant Curator of the Museum, Prosectors, and Assistant Physiologists are elected yearly. Pathological Assistants, Assistants to the Dental Surgeon, Assistants in the Eye Department, Clinical Clerks, and Dressers are appointed every three months.

NEWCASTLE-UPON-TYNE ROYAL INFIRMARY.—Physicians: Drs. Philipson, Drummond, Oliver, and Limont. Surgeons: Drs. Arnison, Hume and Page, and Mr. Williamson. Assistant Surgeon: Mr. T. A. Dodd and Mr. James Rutherford Morison. Pathologist: Dr. Drummond. Dental Surgeon: Mr. R. L Markham. House Physician: Dr. W. D. Arnison. Chloroformist: Dr. W. Baigent. Surgical Registrar: Mr. Geo. Walter Ridley.

The infirmary contains 280 beds. Clinical Lectures are delivered by the Physicians and Surgeons in rotation. Pathological Demonstrations are given as opportunity offers by the Pathologist. Practical Midwifery can be studied at the Newcastle Lying-in Hospital. Instruction is given in Psychological Medicine at the Coxlodge Lunatic Asylum. A Special Course of Instruction is given in the City Hospital for Infectious Diseases by the Superintendent, the City Officer of Health, Mr. H. E. Armstrong.

Leeds General Infirmary and Medical Department of the Yorkshire College.—The Leeds General Infirmary has accommodation for 471 in-patients, surgical and medical, including forty-two beds at a "semi-convalescent home" in the country. During the last year 5425 in-patients and 38,988 out-patients were treated; these numbers show a remarkable increase if compared with statistics of eleven years ago, when only 11,500 out-patients were seen. Clinical teaching takes place daily in the wards, and Clinical Lectures are given in the operating-room. There are Medical, Surgical, Ophthalmic, Aural, and Electrical Departments, in each of which special instruction is imparted to students. A Gynæcological and Extern Obstetric Department, together with Laryngeal and Skin Clinics, are in operation The Public Dispensary, the Hospital for Women and Children, the Fever Hospital, and the West Riding Lunatic Asylum are other medical institutions which are made use of by the Leeds students.

In consequence of the growing requirements for space, chiefly as regards lecture-rooms and laboratories, plans have been prepared and an admirable site secured for a new building. It is believed that this building, the erection of which is in progress, will, in its convenience, commodiousness, and completeness, compare favourably with any similar institution in the kingdom. Meanwhile the work of the Medical School is carried on mainly in the premises in Park-street, which, erected in 1865, were then considered to be of ample size for the needs of the school, and were furnished with all that was necessary to give a complete medical education. The dissecting-rooms and physiological laboratories (which have been considerably enlarged since they were first built), the library, and the museums of Pathology and Materia Medica, are contained in this building. By the kind permission of the board of the infirmary, the lectures on Medicine, Surgery, and Ophthalmology are given in that institution; while the classes in Chemistry and Physics, Biology and Botany, Practical Chemistry, Practical Toxicology, and Practical Pharmacy, are held in College-road, in the Arts and Science Department of the College buildings. Two entrance Scholarships are offered: one, of the value of 60 guineas, covering admission to all requisite lectures; and the other, of the value of 40 guineas, covering the cost of admission to the medical and surgical practice of the infirmary. Several valuable prizes are given at the end of each session. The following appointments at the infirmary are annually open to students: Resident medical officer, resident surgical officer, resident obstetric officer, appointed for twelve months, and eligible for re-election; two house physicians, holding office for twelve months; four house surgeons, for twelve months; twenty-four physicians' clerks, for three months; twenty-four surgeons' dressers, for six months; sixteen ophthalmic and aural surgeons' dressers, for three months; eight gynæcological ward clerks, for three months; eight gynæcological out-patient clerks, for three months; twenty-four assistant physicians' clerks, for three months; twenty-four assistant surgeons' dressers, for three months; forty-eight dressers in the casualty-room, for three months; twelve post-mortem clerks, for three months.

There are appointments open to students in other medical institutions in the town, and also in the West Riding Lunatic Asylum.

University College, Liverpool, Medical Faculty: Victoria University.—The infirmary attached to the School contains 300 beds, with 40 special beds for the treatment of Diseases of Women. Lock, Lying-in, and Eye and Ear Hospitals are in the immediate vicinity, and their practice is open to the students of the Medical Faculty.

The composition fee for lectures and classes is £24 15s. for Preliminary Scientific Classes, and 60 guineas for the Medical Classes required for Victoria and London degrees; 60 guineas for the classes for the London diploma, exclusive of Biology. The composition fees are payable in two instalments, with an interval of twelve months. The fee for hospital practice is 40 guineas, exclusive of the special hospital practice in Fever, Eye and Mental Diseases, which may be paid in the same way.

Three house physicians and three house surgeons are appointed from the qualified pupils every six months, also clinical clerks, dressers, and post-mortem clerks.

Two Holt Tutorial Scholarships, each of the value of £100, are awarded annually by the Medical Faculty to senior students. Also an entrance Lyon Jones Scholarship of £21 for two years for students proceeding to the Victoria degree, and another of the same value open to all students who have completed their second year. The Derby Exhibition of £15 for Clinical Medicine and Surgery. The Torr and School Gold Medals for Anatomy and Physiology, and the class prizes.

Medical Department of Owens College, Victoria University.—This medical school is located in a large new building, which forms a part of Owens College. It is provided with a very large dissecting-room, physiological laboratory, private laboratories, and work-rooms, besides lecture-rooms, a museum, and a library. In order to give the fullest possible opportunities for teaching and investigation in the departments of Anatomy, Physiology, Pathology, and Materia Medica, an extension of the school buildings has been made and further extensions are approaching completion. The more strictly practical departments of medical study are taught partly in the Medical School and partly in the Royal Infirmary, to which are attached a fever hospital, a lunatic asylum, and a convalescent home. Medical and Surgical Clinical Classes are conducted in the infirmary, and separate instruction is afforded in the elements of Medical and Surgical Physical Diagnosis, in Obstetric Medicine, Ophthalmic Surgery, and Pathological Anatomy by the different members of the staff of the Medical School and Infirmary. The following scholarships and prizes are open to students of the Medical School:—A Dauntesey Scholarship of the value of about £100 is offered annually for competition at the beginning of October to persons who have not been students in any medical school in the United Kingdom, and whose age does not then exceed twenty-five years. The subjects for examination are—(*a*) General and Comparative Anatomy; (*b*) Physiological Botany; (*c*) Chemistry; (*d*) Mathematics or Latin. Medals are awarded on the results of the various class examinations at the end of each session. A Platt Physiological Scholarship of £50 a year for two years is offered annually to the student who, having studied for one entire session in the Physiological Laboratory of Owens College, has prosecuted the best original investigation in Physiology, and has passed a satisfactory examination in Physiology. Two Platt Exhibitions, of the value of £15 each, to be competed for by first and second year students in the class of Physiology. A Dumville Surgical Prize of £20 is offered annually for proficiency in Clinical Surgery. The Turner Medical Prize of £25 is awarded annually. The John Henry Agnew Scholarship in Diseases of Children is also offered for competion each year. Medical and Surgical Clinical Prizes, each of the value of 6 guineas, are open to competition each year for the best reports (with comments) of cases which have occurred in the wards of the infirmary.

Manchester Royal Infirmary (300 beds).—Consulting Physicians: Drs. Frank Renaud, H. Browne, Sir Wm. Roberts, Henry Simpson, and John E. Morgan. Consulting Surgeons: Messrs. George Bowring, E. Lund, and F. A. Heath. Physicians: Drs. D. J. Leech, J. Dreschfeld, Thos. Harris and Graham Steell. Assistant Physicians: Drs. J. S. Bury and A. T. Wilkinson. Obstetric Physician: Dr. Lloyd Roberts. Surgeons: Messrs. Walter Whitehead, Thomas Jones, Jas. Hardie, and F. A. Southam. Assistant Surgeons: Messrs. G. A. Wright and Wm. Thorburn. Ophthalmic Surgeon: Dr. D. Little. Dental Surgeon: Mr. G. W. Smith. Medical Registrar: Dr. R. T. Williamson. Administrators of Anæsthetics: Mr. Alexander Wilson and Mr. A. G. Andrews. General Superintendent and Secretary: Mr. W. L. Saunder.

Barnes Convalescent Hospital, Cheadle, Cheshire (in connexion with the Manchester Royal Infirmary; 136 beds).—Secretary: Mr. W. L. Saunder. Resident Medical Officer: Dr. John E. Platt.

Monsall Fever Hospital, Newton Heath (in connexion with the Manchester Royal Infirmary; 350 beds).—Resident

TABULAR LIST OF THE CLASSES, LECTURERS, AND FEES, AT THE PROVINCIAL SCHOOLS OF MEDICINE, FOR THE SESSION 1892-93.

LECTURES, &c.	UNIVERSITY OF DURHAM COLL. OF MED., NEWCASTLE-UPON-TYNE.		UNIVERSITY COLLEGE, LIVERPOOL.		OWENS COLLEGE (VICTORIA UNIV.) SCHOOL OF MEDICINE.		SHEFFIELD SCHOOL OF MEDICINE.	
	LECTURERS.	FEES. One Course.	LECTURERS.	FEES.	LECTURERS.	FEES. One Course.	LECTURERS.	FEES. One Course.
		£ s. d.		£ s. d.		£ s. d.		£ s. d.
WINTER SESSION.								
PHYSIOLOGY	Prof. Oliver, Mr. Williamson	5 5 0	Mr. Gotch	5 5 0	Prof. Wm. Stirling (with Histology)	5 5 0	... Dr. Arthur Hall	4 4 0
PRACTICAL PHYSIOLOGY	Prof. Oliver, Mr. Williamson (in Summer)	5 5 0	Mr. Leigh (Demonstrator)	5 5 0	Prof. Stirling, Mr. Edkins, Mr. Menzies	...	Dr. Arthur Hall	3 3 0
ANATOMY, DESCRIPTIVE & SURGICAL	Mr. Howden	5 5 0	Mr. Mitchell Banks and Mr. Thomas	5 5 0	Prof. A. H. Young	5 5 0	Mr. E. Skinner Mr. Chas. Atkin	4 4 0
ANATOMICAL DEMONSTRATIONS	Mr. Howden	5 5 0	Mr. Kellett Smith	3 3 0	Prof. Young, Dr. Robinson, Mr. Chalmers	1 1 0	Mr. Scott, Dr. Rhodes, & the Tutor	3 2 0
CHEMISTRY	Prof. Bedson	5 5 0	Dr. J. C. Brown	3 10 0	Prof. Dixon Prof. Perkin	3 10 0	At Firth College	4 4 0
MEDICINE	Prof. Philipson	5 5 0	Dr. Glynn	5 5 0	Prof. Dreschfeld	5 5 0	Drs. Dyson & Porter	5 5 0
SURGERY	Prof. Arnison	5 5 0	Mr. Parker	5 5 0	Prof. Hare (with Operat. Surg.)	5 5 0	Mr. A. Jackson	5 5 0
PRACTICAL SURGERY	Prof. Arnison, Mr. Page	5 15 6	...	4 4 0	...	2 2 0	Mr. R. J. Pye-Smith	3 3 0
PATHOLOGY	...	...	Dr. Barron	4 4 0	Prof. Delépine Prof. Young, *Surg. Path.*	4 4 0	Dr. Burgess (*in Summer*)	...
EXPERIMENTAL PHYSICS	Prof. Stroud	2 2 0	Dr. Lodge	6 6 0	Prof. Schuster	3 10 0	At Firth College	3 2 0
PUBLIC HEALTH	Dr. H. E. Armstrong	5 5 0	Dr. Hope	4 4 0	Dr. Tatham [*Zoology*: Prof. Marshall]	2 2 0	Dr. Sinclair White	
HOSPITAL PRACTICE:	ROYAL INFIRMARY, NEWCASTLE.		LIVERPOOL ROYAL INFIRMARY.	6 mnths.	ROYAL INFIRMARY.	Composition fee, full period, £42 0 0	SHEFFIELD GEN. INFIRMARY.§ Dr. Dyson, Dr. Porter, Messrs. Favell, A. Jackson, & Shaw	6m., £6 6s.; 3m. £3 3s.; perp. (Med. & Surg.) £45; or by 2 instalments of £26 & £22.
PHYSICIANS	Drs. Philipson, Drummond, Oliver, & Limont	6 mnths. 8 8 0 12 mnths.	Dr. Glynn, Dr. Davidson, Dr. Caton	6 6 0 12 mnths. 7 7 0	The Physicians			
SURGEONS	Dr. Arnison, Mr. Williamson, Dr. Hume, Mr. Page	12 12 0 Comp.	Mr. Banks, Mr. Parker, Mr. Paul	6 mnths. 7 7 0	The Surgeons			
ASSISTANT-SURGEONS	Mr. T. A. Dodd Mr. J. R. Morison	†26 5 0 ...	Mr. R. A. Bickersteth	12 mnths. 10 0 0	...		PUBLIC HOSP. & DISPENSARY *Phys.*: Drs. Burgess, Arthur Hall, and Clapham *Surgs.*: Mr. Thorpe, Mr. Pye-Smith, and Dr. S. White	
			[*Dental Anat. & Phys.*: Mr. Paul, £3 3s.—*Dental Metallurgy*: Mr. Royston, £3 3s.]		[*Dent. Mech.*: Mr. Tanner] [*Dent. Anatomy*: Mr. Hooton] [*Dent. Metallurgy*: Dr. Burghardt] [*Oper. Dent.*: Mr Whittaker, £3 3s.]	3 3 0 3 3 0 3 3 0		
SUMMER SESSION.								
MATERIA MEDICA	Dr. McBean	5 5 0	...	...	Prof. Leech	4 4 0	Dr. Cocking	3 3 0
MIDWIFERY, &c.	Dr. Nesham,*‡ Dr. Gibson *‡	5 5 0	Dr. Wallace‡ Dr. P. Davidson (*child. dis.*)	5 5 0 1 1 0	Prof. Sinclair Dr. Ashby (*Dis. Chil.*)	4 4 0 2 2 0	Dr. Keeling, Mr. R. Favell, & Dr. Martin	4 4 0
BOTANY	...	5 5 0	Mr. R. J. H. Gibson	3 3 0	Prof. Weiss	2 12 6	At Firth College	3 3 0
BIOLOGY	Dr. Murphy	5 5 0	Dr. Herdman	6 0 0	...	...	...	...
MEDICAL JURISPRUDENCE	Mr. Page	5 5 0	Mr. Paul	4 4 0	Prof. Dixon Mann	4 4 0	Dr. Littlejohn	3 3 0
MENTAL DISEASES	Dr. McDowall	...	Dr. Wiglesworth	1 1 0	Dr. Mould	1 11 6	...	...
PRACTICAL CHEMISTRY	Prof. Bedson	5 5 0	Dr. Brown	5 11 0	Prof. Dixon	4 4 0	At Firth College	3 3 0
COMPARATIVE ANATOMY	Prof. Brady	2 2 0	...	...	Dr. Marshall‡ (*with Embryology*)	2 12 6	...	...
SURGICAL PATHOLOGY	..	...	...	...	Prof. Young	2 2 0	...	...
PATHOLOGY & MORBID ANATOMY	Dr. Drummond	5 5 0	Dr. Barron (*Path. Histol.*)	2 2 0	Prof. Dreschfeld Dr. Brooke (*Skin Diseases*)	2 2 0 1 1 0	Dr. Burgess ...	4 4 0 ...
OPHTHALMIC SURGERY	Mr. Williamson	...	Mr. E. A. Browne‡	1 1 0	Dr. Little	3 3 0	Mr. Snell	2 2 0
DENTAL SURGERY & MECHANICS	...	...	Mr. Phillips Mr. Councell	3 3 0 3 3 0	Mr. G. G. Campion [*Dis. of Larynx*: Dr. Hodgkinson]	3 3 0 1 1 0	...	...
OPERATIVE SURGERY	Prof. Arnison, Mr. Page	5 5 0	Mr. Parker	4 4 0	Prof. Hare	4 4 0	Mr. Pye-Smith	2 2 0
CLINICAL MEDICINE CLINICAL SURGERY	Physicians and Surgeons of Infirmary	...	Physicians and Surgeons of Royal Infirmary	...	Physicians and Surgeons of the Royal Infirmary	...	Phys. & Surg. of Gen. Infir. & Pub. Hosp. & Dispensary	...
	[*Practical Physics*: Prof. Stroud]		[*Therapeutics*: Dr. Carter]	4 4 0	[Comp. fee, Dental course, £50]			
FEE for all Lectures required by the College and Hall	...	63 0 0	...	63 0 0‖	...	70 0 0	...	...
Ditto for Hospital Medical & Surgical Practice	...	†32 11 0	...	42 0 0	...	42 0 0	...	45 0 0

* Diseases of Women and Children. † In addition to the above, £2 2s. yearly up to three years. ‡ In Winter.
§ Assistant-Physician: Dr. Cocking. Assistant-Surgeons: Messrs. Hallam & Atkin. ‖ Except Biology and Fever, Ophthalmic, and Mental Hospital Practice.

TABULAR LIST OF THE CLASSES, LECTURERS, AND FEES, AT THE PROVINCIAL SCHOOLS OF MEDICINE, FOR THE SESSION 1892-93.

LECTURES, &c.	MASON COLLEGE, BIRMINGHAM.		BRISTOL MEDICAL SCHOOL.		CAMBRIDGE UNIVERSITY.		YORKSHIRE COLLEGE, LEEDS.	
	LECTURERS.	FEES. One Course.	LECTURERS.	FEES. One Course.	LECTURERS.	FEES.	LECTURERS.	FEES.
WINTER SESSION.		£ s. d.		£ s. d.		£ s. d.		£ s. d.
PHYSIOLOGY	Mr. F. J. Allen	6 6 0	Mr. G. M. Smith	5 5 0	Prof. Foster	...	Prof. Birch and Demonstrator	5 5 0
ANATOMY, DESCRIPTIVE & SURGICAL	Dr. B. C. A. Windle	6 6 0	Mr. Harsant	5 5 0	Prof. Macalister Sir G. M. Humphry	...	Prof. Griffith and Mr. Robinson	5 5 0
ANATOMICAL DEMONSTRATIONS	Messrs. Manners-Smith, Haslam, & Jordan	5 5 0	Mr. Barclay and Mr. Bash	...	Prof. Macalister and Demonstrators	...	Prof. Griffith and Demonstrators	...
PRACTICAL PHYSIOLOGY	Mr. Allen	2 2 0	Dr. Clarke	5 5 0	Prof. Foster (and in Summer)	...	Prof. Birch and Demonstrators	6 6 0
ELEMENTARY BIOLOGY	Mr. Bridge & Mr. Hillhouse	5 5 0	Profs. Leipner & Lloyd Morgan	5 5 0	...	...	Professor Miall	4 4 0
CHEMISTRY	Dr. W. A. Tilden	5 5 0	Mr. Coomber	3 3 0	Prof. Liveing Prof. Dewar	...	Prof. Smithells & Dr. Cohen	5 5 0
MEDICINE	Dr. Suckling & Dr. Saundby	6 6 0	Drs. Markham Skerritt and R. S. Smith	5 5 0	Prof. Allbutt Dr. MacAlister	...	Prof. Eddison and Dr. Churton	6 6 0
THERAPEUTICS	Dr. Carter	3 3 0	...	...	Prof. Latham	...	Dr. Barrs	3 3 0
SURGERY	Mr. Pemberton Mr. B. May	6 6 0	Mr. Dobson and Mr. J. G. Smith	5 5 0	Sir G. M. Humphry	...	Prof. Robson Mr. Ward (*Prac. Surg.*)	6 6 0 4 4 0
HYGIENE	...	...	Dr. Davies	4 4 0	Dr. Anningson	...	...	...
GYNÆCOLOGY	...	...	...	...	...	...	Dr. Hellier	2 2 0
HOSPITAL PRACTICE:	GENERAL HOSPITAL AND QUEEN'S HOSPITAL.	3 months 5 0 0	BRISTOL ROYAL INFIRMARY, AND BRISTOL GENERAL HOSPITAL.	...	ADDENBROOKE'S HOSPITAL.	Perpet. 8 8 0	LEEDS GENERAL INFIRMARY.	
PHYSICIANS	...	6 months 7 0 0	...	...	Prof. Latham, Drs. Bradbury, MacAlister, and L. Humphry	..	Drs. Churton, Barrs, and Jacob	...
SURGEONS	(*See Additional Information on Schools.*)	1 year 10 10 0	(*See Additional Information on Schools.*)	... ...	Sir G. M. Humphry Mr. Carver Mr. Wherry, Mr. Deighton	...	Messrs. Atkinson, Robson, Ward, and Brown	...
	[*Ophthalmology:* Mr. Priestley Smith. No fee.]							
SUMMER SESSION.								
MATERIA MEDICA, &c.	Mr. Barclay	1 1 0	...	...	Prof. Latham, Mr. Robinson, Mr. Acton	The fee for each course of lectures or demonstrations is one or two guineas per term.	Dr. Barrs	4 4 0
MIDWIFERY, &c.	Mr. Clay	5 5 0	Dr. Swayne and Dr. Lawrence	4 4 0	Dr. Griffith		Prof. Wright	5 5 0
GYNÆCOLOGY	Mr. Lawson Tait	...	...	...	...		...	...
PRACTICAL SURGERY	Mr Jordan Lloyd	2 2 0	Mr. Prichard	3 3 0	Mr. Wherry (both)		Mr. Ward	4 4 0
OPERATIVE SURGERY	...	...	Mr. Pickering	3 3 0			Mr. Ward	...
BOTANY	...	...	...	3 3 0	Prof. Babington Mr. Darwin, Mr. Gardiner		Prof. Miall	5 5 0
HYGIENE AND PUBLIC HEALTH	Mr. B. Hill	3 3 0	...	...	...		Mr. Hartley	2 12 6
MEDICAL JURISPRUDENCE	Mr. Wilders Dr. A. B. Hill	4 4 0	Dr. Eager (both)	3 3 0	Dr. Anningson		Mr. Scattergood & Dr. Chadwick	5 5 0
MENTAL DISEASES	Mr. Whitcombe	1 1 0	Dr. Harrison	...	Dr. Rogers		Mr. Lewis	2 13 6
PRACTICAL CHEMISTRY	Dr. W. A. Tilden	4 4 0	Mr. Coomber	3 3 0	Prof. Liveing		Prof. Smithells	4 4 0
PRACTICAL PHYSIOLOGY & HISTOL.	Mr. Allen	4 4 0	...	...	Prof. Foster		...	...
CHEMICAL PHYSICS	Dr. Poynting	1 1 0	...	...	...		Prof. Birch and demonstrator	6 6 0
COMPARATIVE ANATOMY	Mr. Bridge	...	Prof. Morgan	4 4 0	Dr. Hill * Prof. Newton (Winter, Mr. Sedgwick)		Prof. Miall	...
PATHOLOGY AND MORBID ANATOMY	Mr. Barling	4 4 0	Dr. Baron Dr. Baron	5 5 0 4 4 0	Prof. Roy, Dr. Adami		Dr. Jacob	4 4 0
PRACTICAL HISTOLOGY	...	...	...	...	Dr. Hill		Prof. Birch and Demonstrator	...
DENTAL SURGERY	Mr. Huxley	3 3 0	...	...	Dr. Cunningham		...	...
DENTAL ANATOMY & PHYSIOLOGY	Mr. Humphreys	3 3 0	Mr. Ackland	3 3 0	Dr. Cunningham		...	...
DENTAL METALLURGY	Mr. Turner	2 2 0	...	3 3 0	...		...	...
DENTAL MECHANICS	Mr. Elliott	2 2 0	...	3 3 0	...		...	...
CLINICAL MEDICINE	Physicians of the two Hospitals.	...	...	...	The Physicians		Physicians of the Infirmary	...
CLINICAL SURGERY	The Surgeons of the two Hospitals.	...	...	...	The Surgeons to Addenbrooke's Hospital		Surgeons of the Infirmary	...
	[*Dean of the Faculty:* Dr. Windle]		[*Pract. Pharm:* Dr. Prowse; *Pharm. & Therapeutics:* Dr. Prowse, £3 3s. each course.]				[*Practical Pharmacy:* Mr. Branson] [*Ophthalmology:* Mr. Nunneley]	2 12 6
Fees for all the Lectures required by the College and Hall	...	63 0 0	...	68 5 0 or 57 15 0	...		...	63 0 0
Composition Fee for Hospital Medical and Surgical Practice	...	42 0 0	...	36 15 0	...		...	42 0 0

* With Zoology.

Medical Officer: Dr. Alex. Johnston. Secretary: Mr. W. L. Saunder.

Radcliffe Infirmary, Oxford.—This infirmary is open to students for Medical and Surgical work in the wards and out-patients' departments. Clinical lectures are given by the Litchfield Clinical Lecturers in Medicine and Surgery. Also tutorial instruction and demonstrations are given in special Regional Anatomy (medical and surgical), methods of Medical Diagnosis, and Surgical Manipulation. Practical Pharmacy is taught in the Infirmary Dispensary. The whole course of study at the museum and infirmary combined is intended for students until they have passed the Second Conjoint Examination or the First Oxford M.B.

Sheffield School of Medicine.—The medical school is provided with dissecting-room, physiological laboratory, museum, library, and class-room. The course of lectures and instruction are adapted to meet the requirements of the various examining bodies. Chemistry, Physics, Comparative Anatomy, Elementary Biology, Botany, and Toxicology are taken out at Firth College. The infirmary contains 200 beds, a museum of Pathology, library, and post-mortem theatre, with microscopes, and all the appliances for clinical research. The Public Hospital and Dispensary contains 101 beds, and is recognised by the examining bodies. Perpetual fee for hospital practice £45 in one payment, or by two instalments; £26 on entering for hospital practice, and 22 guineas within twelve months afterwards. A tutor's fee of £2 2s. is required from students entering for Anatomy and Physiology.

Jessop Hospital for Women, Gell-street, Sheffield.—The hospital is devoted to Diseases peculiar to Women. There is also an Obstetric Department for the admission of a small number of cases. A staff of midwives connected with the hospital attend lying-in women at their own homes, and in case of need are assisted by the members of the medical staff. Out-patients are attended daily. Students can attend the practice of the hospital, and be supplied with cases of midwifery. Communications should be addressed to the Secretary, York Chambers, York-street, Sheffield.

ENGLISH PROVINCIAL HOSPITALS HAVING SPECIAL CLASSES AND FACILITIES FOR CLINICAL STUDY.

Bath Royal United Hospital (120 beds).—Honorary Consulting Physician: Dr. Coates. Honorary Consulting Surgeon: Mr. Fowler. Honorary Physicians: Drs. Cole and Fox. Honorary Surgeons: Messrs Stockwell, Freeman and Scott. Honorary Assistant Medical Officers for Out-patients: Mr. Lane, Drs. Wilson-Smith and Bannatyne. Honorary Assistant Surgeons: Messrs. Green, Ransford and Terry. Dental Surgeon: Mr. Gaine. Curator of Museum: Dr. Bannatyne. Anæsthetist: Mr. Lane. Registrar: Mr. Hopkins. The hospital is recognised by the Royal College of Physicians, Surgeons, &c., and licensed for dissections. It contains a library and an excellent museum, in which are a large number of interesting specimens, both in Pathology and Comparative Anatomy. Fees for attendance: twelve months, £10 10s.; six months, £5 5s. (Temporary pupils can also, by permission of the Honorary Staff, attend the practice of the hospital by the payment of £1 1s. for each month.) Instruction in Practical Pharmacy for three months, £3 3s. Number of Patients admitted during 1891, 1048. Out-patients, 848. Operations performed, 305. Cases of anæsthetisation recorded, 305. Out-patient casualties, 128. For further particulars apply to the Registrar.

Devon and Exeter Hospital, Exeter.—Medical and Surgical Staff: Consulting Physician: Dr. Drake. Physicians: Drs. H. Davy, Arthur G. Blomfield, and Wm, Gordon. Consulting Surgeons: Messrs. A. J. Cumming and T. W. Caird. Surgeons: Messrs. James Bankart, J. D. Harris, E. J. Domville, and Charles E. Bell. House Surgeon: Mr. Henry Andrew. Assistant House Surgeon: Mr. G. Stewart Abram. The hospital contains 218 beds (including special children's wards). There is a good library, museum, dissecting and post-mortem rooms. Attendance on the practice of this hospital qualifies for all the examining boards. Arrangements can be made by which students can attend Midwifery. There is also a Nurses' Home attached to the Hospital. For further particulars as to fees &c., apply to the House Surgeon.

West of England Eye Infirmary, Exeter.—Surgical Staff: Messrs. Bankart and Toswill. Registrar: Mr. Roper. Secretary: Mr. R. C. Cole. The infirmary contains fifty beds. Students of the Exeter Hospital can attend the practice of the Eye Infirmary. Patients for the year ending Michaelmas, 1891, 2104. Total number of patients since the opening of the Infirmary in 1808, 79,512. Days of admission: Mondays, Tuesdays, and Fridays, at 11.

General Kent and Canterbury Hospital.—Opened for the reception of patients April 26th, 1793. 53,331 in-patients and 95,953 out-patients have been admitted since the hospital was open. The hospital contains 106 beds. Pupils of the staff are admitted to the practice of the hospital, and have the use of the library of the East Kent and Canterbury Medical Society for £7 7s. Operation day, Thursday, 11 A.M. Physician: Dr. Henry Alex. Gogarty. Consulting Surgeon; Mr. James Reid. Surgeons: Messrs. Charles Holttum, Frank Wacher, T. Whitehead Read, and John Greasley. Dentist: Mr. Martin L. Bell. House-Surgeon: Mr. Z. Prentice. Assistant House Surgeon and Dispenser: Mr. A. C. Elliman. Secretary: Mr. Arthur J. Lancaster. Over 600 in-patients, 3000 out-patients, and 1000 dental cases are attended in a year.

Liverpool Northern Hospital (160 beds).—There is a special ward for the treatment of Children. Clinical lectures are delivered by the physicians and surgeons during the summer and winter sessions. Clinical clerkships and dresserships are open to all students without additional fee. Consulting Surgeons: Mr. W. H. Manifold and Dr. W. Macfie Campbell. Physicians: Dr. E. H. Dickinson, M.A.; Dr. James Barr. Surgeons: Messrs. Chauncy Puzey, Damer Harrisson, and A. H. Wilson. Fees for hospital attendance: Perpetual, £26 5s.: one year, £10 10s.; six months, £7 7s.; three months, £4 4s.; Practical Pharmacy, £2 2s. Students can enter to the medical or the surgical practice separately on payment of half the above fees.

Liverpool Royal Southern Hospital (Clinical School).—Physicians: Dr. Cameron, Dr. Carter and Dr. Williams. Surgeons: Mr. Rawdon, Mr. Alexander and Mr. Robert Jones. Medical Tutor: Dr. Macalister. Surgical Tutor: Mr. Davey. Pathologist: Dr. Barendt. The hospital is situated within convenient distance of the School of Medicine and contains 164 beds. There is a children's ward and beds are appropriated to the diseases of women. Clinical teaching is given in the hospital and arrangements have been made to render it both thorough and systematic. The members of the staff visit the wards daily and clinical lectures are given every week. Tutorial classes are also held each day at which the junior students are instructed in the methods of diagnosis and the seniors are prepared for their final examinations. The pathological department has a good laboratory attached in which the students receive practical instruction. In addition to the usual clinical and post-mortem clerkships, which are open to all students, the resident post of Ambulance Officer is awarded every three months to the student whom the board may consider most suited to hold it. A Scholarship of £20 is competed for annually, which has attached to it some clinical and pathological duties; and three prizes of £5 each are yearly offered for the best series of clinical reports. Fees: Perpetual £26 5s.: one year £10 10s.; six months £7 7s.; three months £4 4s. A limited number of resident pupils can be received. Terms (exclusive of fees for Hospital Practice), £15 15s. per quarter. The practice of the hospital is recognised by all examining bodies. Special wards for accidents and diseases of children. Resident students received. For further particulars apply to the Dean, Mr. Robert Jones, 11, Nelson-street, Liverpool.

New Royal Infirmary, Liverpool.—The buildings of the new Royal Infirmary were completed and occupied in 1890. They stand on the old site, adjacent to the college, but enlarged by the purchase of a fine frontage in Pembroke-place and of the street known as Pembroke-gardens. Externally, they form a handsome and imposing group of buildings, the general arrangement of which may be gathered from the plan at the beginning of the prospectus. Every available open-air space has been taken advantage of to secure good airing grounds for the patients, and the beauty of the buildings has been not a little enhanced by the numerous balconies, colonnades, and flat roofs adapted to the same purpose for both patients and resident staff. Internally, no point in modern sanitary science has been omitted. The wards—some parallelograms, some circular—

have floors of waxed oak blocks, laid on an iron and cement substratum. Three operating theatres and a clinical lecture theatre have been provided. There is an electrical room, and provision for special kinds of baths. The out-patient department has been so modelled that advantage can be taken of the patients who come to it for the study of minor medical and surgical maladies, and probably also of certain special forms of disease. A room has been allotted to the tutors, in which they may keep their records, while each surgeon and physician has a private room in connexion with his wards, where his dressers and clerks may write up and tabulate cases and investigate morbid products. The pathological department, which is daily becoming of more importance in medical education, has had much pains expended upon it, so as to give proper facilities for the study of morbid anatomy. It is hoped that the facilities for clinical work will be such as not merely to enable the present students to learn the practical parts of their profession thoroughly, but to attract students from overcrowded institutions where the number of pupils is far in excess of the opportunities for the bedside study of disease. In no hospital in the country are the resident physicians and surgeons so comfortably lodged. Each is provided with a bedroom and a private sitting-room in addition to the music-room and dining-room, where all the six residents meet in common.

NORFOLK AND NORWICH HOSPITAL (220 beds).—Fees: £10 10*s.* for six months', £15 15*s.* for twelve months' medical and surgical practice. Pupils: resident and non-resident. Consulting Physician: Sir P. Eade, M.D. Consulting Surgeons: Mr. T. W. Crosse, F.R.C.S., and Mr. W. Cadge, F.R.C.S. Physicians: Sir Frederic Bateman, M.D., Dr. Barton and Dr. Burton-Fanning. Surgeons: Mr. Williams, Dr. Beverley and Mr. H. S. Robinson. Assistant Surgeons: Mr. S. H. Burton and Mr. D. D. Day. Dental Surgeon: Mr. R. Wentworth White. House Surgeon: Mr. Reginald Crosse. Secretary: Mr. Poole Gabbett.

NORTHAMPTON GENERAL INFIRMARY (Established 1743; rebuilt 1793).—In-patients, 1870; out-patients, 9202. The number of beds is 160. Out-pupils are received, and have every opportunity of acquiring a practical knowledge of their profession. Instruction is also given in Anatomy and Materia Medica and Practical Pharmacy. Pupils' fee £25 per annum, or a perpetual fee of £50. Non-resident pupils are taken at a fee of £10 10*s.*

NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill.—The New Infirmary, opened in 1869, is built on the pavilion plan, has accommodation for over 220 patients, including Children's wards, special Ovarian wards, and a special department for the treatment of Diseases of the Eye. In-patients last year, 1877; out-patients, 9661. The attendance of pupils at this infirmary is duly recognised by all the examining boards; and there are unusual facilities for acquiring a practical knowledge of the profession. Physicians: Dr. A. M. McAldowie and Dr. J. Charlesworth. Surgeons: Messrs. J. Alcock and W. D. Spanton. Ophthalmic Surgeon: Mr. J. G. U. West. Assistant Ophthalmic Surgeon: Mr. Herbert Folker. Assistant Physicians: Messrs. S. King Alcock and H. Nicholls. Assistant Surgeons: Drs. G. S. Hatton and W. Hind. Dental Surgeon: Mr. A. Baines. House Surgeon: Mr. A. S. Barling. House Physician: Mr. T. Treffry Cockill. Secretary: Mr. R. Hordley, Hartshill, Stoke-on-Trent, from whom particulars as to fees &c. may be obtained.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL (founded 1848; beds, 230).—A preparatory school of Medicine and Surgery. The pupils have the advantage of seeing the whole of the practice of the physicians and surgeons, and are trained in clinical work by the medical and surgical staff. The attendance of pupils at this hospital is recognised by all the examining boards. Operations are performed every Thursday at 11 o'clock, and practitioners are welcomed.

SUSSEX COUNTY HOSPITAL.—Beds, 174. In-patients treated annually, 1520; out-patients treated annually, 7800. This hospital affords ample facilities for students, possessing a large out-patient department, a library and a well-appointed museum. The hospital does not take resident pupils, but out-pupils may attend the practice of the hospital for any period not exceeding two years on payment, in advance of such a fee, not exceeding 20 guineas, as the Committee of Management shall direct.

MANCHESTER GENERAL HOSPITAL FOR SICK CHILDREN, Pendlebury and Gartside-street.—The hospital contains 140 beds, including 28 for scarlet fever. The medical staff visit the hospital daily at 10 A.M. Clinical instruction is given by the medical staff at the Hospital and Dispensary. Out-patients are seen daily at 9 A.M. at the Dispensary, Gartside-street, Manchester. Physicians: Drs. Ashby and Hutton. Surgeon: Mr. G. A. Wright. Assistant Surgeon: Mr. Joseph Collier. During 1891 there were 1249 in-patients and 10,571 out-patients under treatment at the Dispensary.

BRADFORD EYE AND EAR HOSPITAL.—The hospital contains 45 beds. The staff attend from 3 to 5 on Tuesdays and Saturdays for Diseases of the Eye, and on Thursdays for Diseases of the Ear. Operations on Tuesday and Thursday at 5 P.M. During 1891 the number of out-patients was 4113, and 489 major operations were performed. The clinique of the hospital is open to medical practitioners and advanced students. Surgeons: Drs. Bell and Adolph Bronner. Assistant Surgeons: Drs. Johnstone, Dodd, and Little.

ROYAL PORTSMOUTH HOSPITAL. (Opened 1849.)—Beds, 133. In-patients last year, 896; out-patients, 6803. One year's attendance recognised by the Examining Boards. Consulting Surgeon: Mr. E. K. Knight. Physicians: Drs. E. J. Wallace and J. Watson. Surgeon: Dr. J. Ward Cousins, F.R.C.S. Dental Surgeon: Mr. Kirton. Surgeon for Out-patients: Mr. C. H. Newby, F.R.C.S. House Surgeon: Mr. T. H. Bishop, M.B. Assistant House Surgeon: Mr. B. B. Thorne. For particulars as to fees &c. apply to the House Surgeon.

SCOTLAND.

MEDICAL SCHOOLS WITH FULL CURRICULUM.

SCHOOL OF MEDICINE, Edinburgh.—The students who enter the classes of the school of medicine are partly University students, proceeding to the University qualification; and partly students who are intending to take other qualifications, such as the qualifications of the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Faculty of Physicians and Surgeons of Glasgow, the Royal College of Surgeons of England, and the University of London, and elsewhere. The number of students varies much in the classes and subjects. In Practical Anatomy alone it reaches 600 different students. It is much within the limit to say that about 1000 students avail themselves each year of the opportunity of attending the school. The number of class tickets issued annually by the lecturers is of course considerably larger. The lectures qualify for the University of Edinburgh and the other Universities, the Royal Colleges of Physicians and Surgeons of Edinburgh, London, and Dublin, the Faculty of Physicians and Surgeons of Glasgow, and the other Medical and Public Boards. In accordance with the recent Statutes of the University of Edinburgh, one half of the qualifying classes required for graduation may be attended in this school. The regulations require that the fee for any class, taken for graduation in Edinburgh, shall be the same as that for the corresponding class in the University. The whole education required for graduation at the University of London may be taken in this school.

Fees.—For a first course of lectures, £3 5*s.*; for a second, £2 4*s.*; perpetual, £5 5*s.* To those who have already attended a first course in Edinburgh the perpetual fee is £2 4*s.* Practical Anatomy (six months' course), £3 3*s.*; course of demonstrations, £2 2*s.*; perpetual, £4 4*s.* Practical Anatomy, with course of demonstrations, £4 4*s.* Practical Chemistry, £3 3*s.* Analytical Chemistry, £2 for one month, £5 for three months, or £10 for six months. Practical Physiology, Practical Pathology, and Practical Materia Medica and Pharmacy, each £3 3*s.*; Diseases of the Ear and Throat, and Diseases of the Eye, each £2 2*s.* For summer courses of Clinical Surgery and Clinical Medicine, each £2 4*s.*; Practical Anatomy, including Anatomical Demonstrations, £2 2*s.*; Operative Surgery, £3 3*s.*; Insanity, £1 1*s.*

EDINBURGH SCHOOL OF MEDICINE AND PHARMACY, Marshall-street, Nicolson-square.—The classes of this School will be resumed for the winter session on October 11th next, Chemistry, Theoretical and Practical, Midwifery, Surgery, and Medicine. From the Dispensary attached to this institution, Pharmacy, Practical and Theoretical. Practical Midwifery. Out-door Practice. Medical and Surgical Diagnosis. Attendance at this institution qualifies for the University of Edinburgh and all other licensing boards. Tutorial classes

LECTURES, &c.	Lecturers.	Fees.	Lecturers.	Fees.	Lecturers.	Fees.	Professors.	Fees.	Lecturers.	Fees.	Lecturers.	Fees.	Lecturers.	Fees.
		£ s.		£ s.		£ s.		£ s.		£ s.		£ s.		£ s.
WINTER SESSION.														
ANATOMY	Prof. R. W. Reid	3 3	Prof. Paterson‖	3 3	Sir William Turner	4 4	Dr. J. Cleland	3 3	Mr. Clark	4 4	Dr. A. M. Buchanan	4 4§	...	...
PRAC. ANAT. & DEMONS. ...	...	2 2	Prof. Paterson‖	3 3	...	...	...	3 3	Mr. Clark	3 3	...	...	...	...
CHEMISTRY (PRACTICAL, &c.)	Prof. Japp	3 3	Prof. Purdie¶ Prof. Frankland‖	3 3 3 3	Dr. Crum Brown (Adv. Class in Sum.)	4 4	Dr. J. Ferguson [Chemical Lab.: Dr. J. Ferguson]	3 3 10 10	Dr. Milne [Throat and Nose: Dr. Newman]	2 2	Mr. J. R. Watson [Physics: Dr. Fergus] [Zoology: Dr. Todd]	2 2 2 2 2 2	Mr. A. B. Robertson	2 2
PHYSIOLOGY (INST. OF MED.)	Dr. MacWilliam	3 3	Prof. Pettigrew¶ Prof. Reid‖	3 3 3 3	Dr. Rutherford	4 4	Dr. McKendrick [Summer Course)	3 3	Dr. Barlow	2 2	Dr. D. Campbell Black (In Infirmary)	2 2	...	...
GENERAL PATHOLOGY, &c.	Dr. Hamilton	3 3	...	...	Dr. Greenfield	4 4	Dr. J. Coats (inc.	4 4	Dr. Lindsay Steven	3 3	...	...	...	...
MEDICINE	Dr. D. W. Finlay	3 3			Dr. Grainger Stewart	4 4	Dr. Gairdner	3 3	Dr. Robertson	2 2	Dr. Gemmell [Diseases of Women: Dr. W. L. Reid]	2 2 2 2	Dr. R. Cowan Lees [Gynæcology: Dr. J. B. Nairne]	2 2
SURGERY	Dr. Alex. Ogston	3 3	Dr. MacEwan (systematic)	2 2	Dr. Chiene	4 4	Sir G. H. B. Macleod [Physics: Lord Kelvin‡ and Mr. Magnus Maclean‡]	3 3 3 3	Dr. D. N. Knox	2 2	Dr. Dunlop [Pract. Pharm.: Dr. A. Napier‡]	2 2 2 2	Mr. R. H. Parry [Dis. of Throat & Nose: Dr. A. B. Kelly]	2 2 1 1
MATERIA MEDICA, &c. ...	Dr. Cash	3 3	...	...	Dr. T. R. Fraser	4 4	Dr. Charteris	3 3	Dr. Dougall	2 2	Dr. A. Napier	2 2	...	...
MIDWIFERY, &c.	Dr. Stephenson	3 3	...	...	Dr. Simpson (Dis. Wom. & Child.)	4 4	Dr. Leishman [Pub. Health: Drs. Simpson & Ferguson]	3 3	Dr. Stirton [Bacteriology: Dr. Workman]	2 2 2 2	... [Dis. of Throat & Nose: Dr. Macintyre] (also in Summer)	... Free	Dr. H. St. Clair Gray	2 2
MED. JURISPRUDENCE, &c.	Dr. Hay (In Summer)	3 3	...	...	Sir D. Maclagan (In Summer only)	4 4	Dr. Simpson,‡ (Law Class, ditto)	3 3 3 3	Dr. Glaister‡	2 2	Dr. T. K. Dalziel (In Summer)	2 2	...	...
NATURAL HISTORY	Dr. Nicholson	3 3	Prof. McIntosh¶ Prof. Thompson‖	3 3 3 3	Dr. Ewart	4 4	Dr. Young	3 3	Mr. Prince	2 2	[Aural Surgery: Dr. Barr]	Free	...	...
NATURAL PHILOSOPHY ...	Prof. Niven	3 3	Prof. Butler¶ Prof. Steggall‖	3 3 3 3	Mr. Tait	3 3	...	...	Mr. Blyth (and Physics)	2 4 0	...	...	...	...
HOSPITAL PRACTICE:	ABERDEEN R. INF.				EDIN. ROYAL INF.		GLASGOW ROY. INF. AND WEST. INF.				GLASGOW ROY. OR WESTERN INF.			...
PHYSICIANS	Drs. A. Fraser, Blaikie Smith, and Finlay Daily [Assist.-Phys.: Dr. Rodger]	One year, £3 10s. Perpetual, £6.	...	...	...	Perpet. ticket, £12 12s.	The Physicians and Surgeons of the Infirmaries (and in Summer)	1st year, £10 10s.; 2nd, £1; Perpetual, £10 10s.	The Physicians and Surgeons of the Glasgow Royal Infirmary	Perpetual, including Clin. Lectures, £21	The Medical and Surgical Staffs.	1st year, £10 10s.; after that 6 months, £5 5s.; 3 months, £3 3s.; W. I. £7 7s.	The Physicians & Surgeons in the Western Infirmary.	
SURGEONS	Drs. Ogston, Garden, & Booth Williamson (dental) Daily		...	...	...		...		[Hygiene: Drs. Glaister & J. C. McVail‡]		...			...
ASSISTANT-SURGEONS ...	Dr. Riddell Dr. McK. Davidson (ophth.)	...	...	...	...	...	...		[Diseases of Skin: Dr. Alex. Morton‡]	...	...			...
CLINICAL MEDICINE	Drs. A. Fraser, Blaikie Smith, and Finlay	3 3	The Physicians of the Royal Infirmary, Dundee	...	Drs. G. Stewart, Fraser, Greenfield, & Simpson on Diseases of Women	4 4	Drs. McCall Anderson & Gairdner (and in Summer)		Dr. McVail and the Physicians of the Royal Infirmary	...	The Physicians	...	...	...
CLINICAL SURGERY	Drs. Ogston, Garden, & Booth	3 3	The Surgeons of the Royal Infirmary, Dundee	...	Dr. Annandale	4 4	Dr. Buchanan & Sir G. H. B. Macleod (and in Summer)	...	Dr. Macewen and the Surgs. of the Royal Infirmary	...	The Surgeons	...	...	...
SUMMER SESSION.														
PRAC. ANAT. & DEMONS. ...	Prof. R. W. Reid	2 2	Prof. Paterson‖	2 2	Sir Wm. Turner	3 3	Dr. Cleland and Demonstrators	2 2	Mr. Clark	2 2	Dr. Buchanan	2 2	...	...
BOTANY	Dr. Trail	3 3	Prof. Geddes‖ Mr. Robertson¶	3 3 3 3	Dr. Bayley Balfour* [Physics: Mr. Tait]	4 4 3 3	Dr. Bower	3 3	Dr. Swanson	2 2	Mr. T. King	2 2	...	...
HISTOLOGY	Dr. MacWilliam	3 3	...	...	...	...	Dr. McKendrick	3 3	Dr. Barlow	2 2	Dr. D. Campbell Black	2 2	...	...
COMPARATIVE ANATOMY...	...	...	...	...	...	...	...	...	Mr. Prince	2 2	...	...	...	...
PRACTICAL CHEMISTRY ...	Prof. Japp	3 3	Prof. Frankland	2 2	Dr. Crum Brown	3 3	Dr. J. Ferguson	3 3	Dr. Milne	2 2	Mr. J. R. Watson	2 2	Mr. Robertson	...
DISEASES OF THE EAR ...	Dr. McKenzie Booth	1 1	...	...	...	...	[Pract. Mat. Med.: Dr. Charteris]	3 3	Dr. J. Kerr Love	1 1	... [Physics: Dr. Fergus]	... 2 2	...	...
DISEASES OF THE EYE ...	Dr. Davidson	1 1	...	...	Dr. A. Robertson,	3 3	Dr. T. Reid	2 2	Dr. Wolfe*	2 2	Dr. Meighan	Free	...	...
DISEASES OF CHILDREN ...	Dr. Stephenson	...	...	...	Drs. Carmichael &	1 1	...	...	Drs. Black & Adams*	2 2	...	...	...	...
NATURAL HISTORY	Dr. Nicholson	3 3	Prof. Thompson‖	3 3	Dr. Ewart* [Playfair*	4 4	Dr. Young	3 3	Mr. Prince*	2 2	...	...	...	...
MED. PSYCHOL. & INSANITY	Dr. Reid	1 1	...	...	Dr. Clouston,†	3 3	Dr. Yellowlees	2 2	Dr. A. C. Clark	2 2	Dr. Carswell	1 1	...	...
GYNÆCOLOGY	Dr. Stephenson**	2 2	...	...	Dr. Simpson	4 4	Dr. Leishman	2 2	Dr. Kelly*	1 1	...	...	Dr. Nairne	2 2
MIDWIFERY, &c.	[Prac. Hygiene: Dr. Hay]	...	...	...	[Pr. M. Anat. & Path.: Dr. Greenfield]	4 4	...	...	Dr. Stirton	2 2	Dr. W. L. Reid [Ph. H.: Dr. Smith]	2 2	Dr. Gray	2 2
OPERATIVE SURGERY... ...	Dr. Alex. Ogston	3 3	Dr. MacEwan‖	2 2	Dr. Chiene*	3 3	Sir G. H. B. Macleod	2 2	Dr. Whitson	2 2	Dr. Dunlop	2 2	Mr. Parry	2 2

* Also in Winter. † With Clinical Instruction at an Asylum, £3 3s. ‡ In Summer. § This fee includes Practical Anatomy. ‖ Dundee. ¶ St. Andrews. ** In Winter.

in all the branches of the medical curriculum. Particulars of R. Urquhart, Secretary.

Anderson's College Medical School, Glasgow.—This medical school dates back to the year 1790. It has given fourteen professors to the University of Glasgow, of whom six at present hold office. The following courses are given, which qualify for all the licensing boards and for the Universities of London, Durham, Ireland, Edinburgh, and Glasgow (the latter two under certain conditions):—In winter: Anatomy, Professor A. M. Buchanan, M.A., M.D.; Chemistry, Professor J. Robertson Watson, M.A.; Physics, Professor Freeland Fergus, M.D.; Zoology, Professor Geo. Bell Todd, M.B.; Physiology, Professor D. Campbell Black, M.D.; Surgery, Professor James Dunlop, M.D.; Practice of Medicine, Professor Samson Gemmell, M.D.; *Materia Medica, Professor Alex. Napier, M.D.*; Diseases of Women, Professor W. L. Reid, M.D.; Ophthalmic Medicine and Surgery, T. Spence Meighan, M.D.; Aural Surgery, Thomas Barr, M.D.; Diseases of Throat and Nose, John Macintyre, M.B. *In summer:* Anatomy, Practical Anatomy, and Osteology, Practical Chemistry, Physics, Practical Pharmacy, Practical Physiology, Operative Surgery, Midwifery and Diseases of Children, Medical Jurisprudence, Professor T. Kennedy Dalziel, M.B.; Botany, Professor King; Ophthalmic Medicine and Surgery and Mental Diseases, Dr. Carswell; Diseases of Throat and Nose and Hygiene and Public Health, P. Caldwell Smith, M.A., M.D., D.P.H.Camb. The Chemical Laboratory is open daily from 10 to 5. The Dissecting-room is open in winter from 9 A.M. to 6 P.M., and in summer from 6 A.M. to 6 P.M. The students are assisted in their dissections by the Professor and Demonstrators, by whom frequent examinations and demonstrations on the parts dissected are conducted. The supply of subjects for dissection is ample, and students are consequently provided with parts as soon as they may be ready for them. The Dissecting-room is provided with a complete series of dissected specimens, mounted in plaster-of-Paris, illustrating the anatomy of the human body.

The new buildings are situated in Dumbarton-road, immediately to the west of the entrance to the Western Infirmary, within two minutes' walk of it, and four minutes' walk of the University. Extensive accommodation is provided for Practical Anatomy, Practical Chemistry, Practical Physiology, Practical Pharmacy, and Operative Surgery. There are also provided a large library and reading-room, and a students' recreation-room.

Fees.—For each of the above courses of Lectures (Anatomy and Chemistry excepted), first session, £2 2*s.*; second session, £1 1*s.* Anatomy Class Fees: Winter, first session (including Practical Anatomy), £4 4*s.*; second session (including Practical Anatomy), £4 4*s.*; third session, £2 2*s.* To those who have had the necessary courses of *Practical Anatomy* the fee will be £1 1*s.* Summer, Lectures and Practical Anatomy, £2 2*s.*; Lectures alone, £1 11*s.* 6*d*; Practical Anatomy alone, £1 1*s.*; Osteology and Practical *Anatomy, £2 2s.: Osteology alone, £1 11s. 6d.* Chemistry Fees: First course, £2 2*s.*; second course, £2 2*s.* Matriculation Fees: 10*s.* to those taking out two or more classes; 5*s.* to those taking out only one class. The fee of 10*s.* represents a combined fee for the winter and summer sessions. Students who have attended Classes at other Schools, and who desire to pursue their studies at Anderson's College Medical School, will be admitted to such Classes as they may have attended elsewhere at the reduced fees.

Royal Infirmary.—Fees: Hospital Practice and Clinical Instruction, first year, £10 10*s*; second year, £10 10*s.*; afterwards free. Six months, £6 6*s.*; three months, £4 4*s.* Pathology, both courses, £3 3*s.* Vaccination Fee, £1 1*s.*

Western Infirmary. — Fees: Hospital Practice and Clinical Instruction, first year, £10 10*s.*; second year, £10 10*s.*; afterwards free. Six months, £7 7*s.*; three months, £4 4*s.* Pathology, both courses, £4 4*s.* Vaccination Fee, £1 1*s.*

Certificates of attendance on the lectures at Anderson's College Medical School are received by the Universities of London, Durham, Ireland, Edinburgh, and Glasgow (the latter two under certain conditions); by the Royal Colleges of Physicians of London and Edinburgh; by the Royal Colleges of Surgeons, England, Edinburgh, and Ireland; by the King and Queen's College of Physicians, Ireland; by the Faculty of Physicians and Surgeons of Glasgow; by the Apothecaries' Hall, London; and by the Army, Navy and East India Boards. Communications relating to the Medical School to be addressed to the Dean of the Medical Faculty, Professor Samson Gemmell, M.D., Anderson's College Medical School, Dumbarton-road, Partick, Glasgow. Communications relating to the Preliminary Examination in General Education, and also regarding the Triple Qualification, to be addressed to Alexander Duncan, Esq., B.A., Faculty Hall, 242, St. Vincent-street, Glasgow.

St. Mungo's College and Glasgow Royal Infirmary.—This College was incorporated in 1889. The Glasgow Royal Infirmary was founded in 1791. The Faculty of Medicine of the College occupies new buildings erected for the purposes of a medical school, adjoining and communicating with the Royal Infirmary. The Laboratories, Museums, and Lecture-rooms are equipped and adapted to modern scientific requirements. Recent additions consist of Public Health, Practical Zoology, and Bacteriological Laboratories. The Royal Infirmary, which is at the service of the College for the purpose of clinical and practical instruction, is one of the largest general and special hospitals in the kingdom. It has nearly 600 beds, and will almost immediately have considerably over 600. It has special wards for Diseases peculiar to Women, for Venereal Diseases, Erysipelas, Burns, and Diseases of the Throat and Nose. *At the Dispensary special advice and treatment are given* in Diseases of the Eye, Ear, Teeth, and Skin, Women, Throat and Nose, in addition to the large and varied number of ordinary medical and surgical cases—over 36,000 per annum—which in a great industrial centre daily require attention. Students of the College and Hospital get the benefit of dispensary experience free of charge. All appointments are open. There are five Physicians and six Surgeons' Assistants, who board in the hospital free of charge, and act in the capacity of House Physicians and House Surgeons. These appointments are made for six months, and are open to gentlemen who have a legal qualification in Medicine or Surgery, and preference is given to the students of this College and Hospital. Clerks and Dressers are appointed by the Physicians and Surgeons. From the large number of cases of acute disease and accidents of varied character received into this hospital, these appointments are very valuable. In the Pathological Department assistants are also appointed. The session will open with an address by Professor McVail on Wednesday, Oct. 19th, at the College buildings.

Ophthalmic Department.—The Ophthalmic Institution in West Regent-street having been amalgamated with the Royal Infirmary, the usefulness of this department is very much increased, and greater opportunities afforded to *students for the practical study* of Diseases of the Eye. Dr. Wolfe, the ophthalmic surgeon, attends the Royal Infirmary every Tuesday and Friday at 12 noon, and daily at the Institution in West Regent-street from 1 to 2 o'clock. Students can attend both without payment of any additional fee. Lectures are delivered twice a week during the winter and summer sessions. Fee for the course, £2 2*s.*

The fee for each class is £2 2*s*, except for Anatomy, which is £4 4*s.*, and for Physics, which is £2 4*s.* 6*d.*, and certain extra classes, for which the fee is £1 1*s.* The governors have arranged a sessional fee, payment of which entitles the student to attendance not only on the curriculum classes, but all the classes—*nearly as* many more as the curriculum classes,—and this sessional fee is only slightly greater than the sum total of the fees required for the curriculum classes. Students are strongly recommended to begin *their course on the sessional fee plan.* This fee, exclusive of hospital practice, is £17 10*s.* 6*d.* for the first year, £15 15*s.* for the second, £10 10*s.* for the third, and £5 5*s.* for the fourth. The hospital fee (including clinical lectures) is £21 for a perpetual ticket. The classes in St. Mungo's College and in the Glasgow Royal Infirmary are for male students exclusively. Further particulars can be obtained in the Calendar of the College, which will be sent free of charge on application to the Hon. Secretary, Mr. Henry Lamond, 93, West Regent-street, Glasgow.

Glasgow Western Medical School.—This School is situated in University-avenue, close to the University and Western Infirmary, in which latter students obtain their Hospital Practice and Clinical Lectures. Lectures and

Demonstrations are given on Chemistry, on Surgery, on Practice of Physic, on Midwifery and Gynæcology, and on Diseases of the Throat and Nose.

Class Fees.—For each course of Lectures the fee is £2 2*s.*, except for Diseases of Throat and Nose, the fee for which class is £1 1*s.* There is no matriculation fee.

Queen Margaret College, Glasgow.—Queen Margaret College, hitherto the only college in Scotland for the University education of women, was founded in 1883, and now after nine years has attained to a position of greater honour than the promoters could have anticipated in the earlier days of its history. Within the last two months an important change has taken place in the relation of the College to the University of Glasgow. The Universities Commissioners have empowered the Courts of the several Universities of Scotland to admit women to graduation in such Faculty or Faculties as each Court may think fit, and to provide for the education of candidates either in mixed classes of men and women or in separate classes. Glasgow University Court has preferred the second of these alternatives, and, at the instance of the Council of Queen Margaret College, has accepted an offer made by the Council to hand over to the University the government, the endowments, present and prospective, and, with the consent of the donor, Mrs. Elder, the buildings of Queen Margaret College, the endowment and buildings to be reserved for the exclusive education of women, and the College to become incorporated with the University as its department for women. By this step has been secured the amplest fulfilment of the object continually kept in view by the founders—viz., the provision of a University education for women, for now a full curriculum in arts and medicine is given in Queen Margaret College to women by University professors and lecturers, and attendance on the classes qualifies for admission to the degrees examinations of the University. Queen Margaret College therefore, as being a department of the University of Glasgow, has now a standing which it could have acquired by no other means, while the University obtains a building in which women shall have their own class-rooms, laboratories and reading-rooms, as well as access to the University Library and Museum.

University College, Dundee.—Medical Department, Session 1892-93.—The College now forms an integral part of St. Andrews University. The medical classes qualify therefore for the degrees of this and the other Scottish Universities, for the University of London, the Royal University of Ireland, as well as for the licences of the Medical Corporations in England and Scotland. All classes are open to women on equal terms with men. Equipment is at present provided for the first three years of the curriculum. Recently a considerable addition has been made to the temporary anatomical buildings, comprising an enlarged dissecting-room, library, bone-room, private room and work-room. New buildings are also being provided for the departments of zoology, botany and physiology. The Zoological Museum has been very largely increased by recent donations of several thousands of specimens from the British Museum and other sources, and there have been great additions made in the equipment of the department of Physiology by the acquisition of new instruments and apparatus. The lectures and classes for the winter session will commence on Tuesday, Oct. 11th. Natural Philosophy: Professor Steggall and assistant. Chemistry: Professor Frankland, F.R.S., and assistants. Zoology: Professor D'Arcy W. Thompson. Anatomy: Lecturer, Professor Paterson. Physiology: Professor Waymouth Reid. Systematic Surgery: Dr. MacEwan. Clinical Medicine and Surgery: The Visiting Physicians and Surgeons of the Dundee Royal Infirmary, daily.

The lectures and classes for the summer session will commence on Tuesday, May 2nd, 1893.

Dundee Royal Infirmary.—*Entrance Scholarships:*—First year: (*a*) Three Armitstead Scholarships of £20 each, tenable for one year. (These Scholarships were founded and endowed in 1883 by George Armitstead, Esq., M.P.) (*b*) Three Scholarships of £15 each, tenable for one year. Second year: Three Armitstead Scholarships of £20 each, tenable for one year, to be awarded under the following regulations:—1 These Scholarships will be open to all day students entering upon their second year. Candidates must have attended not less than two regular courses at the College during the year immediately preceding the competition.

INSTITUTIONS AFFORDING FACILITIES FOR CLINICAL OBSERVATION.

Royal Infirmary, Edinburgh.—Beds are set apart for clinical instruction by the professors of the University of Edinburgh. Courses of Clinical Medicine and Surgery are also given by the ordinary physicians and surgeons. Special instruction is given in the medical department on Diseases of Women, Physical Diagnosis, and on Diseases of the Skin; and in the surgical department on Diseases of the Eye, the Ear, the Larynx, and the Teeth. Separate wards are devoted to Venereal Diseases, Diseases of Women, Diseases of the Eye, the Ear, and the Skin, also to cases of Incidental Delirium or Insanity. Post-mortem examinations are conducted in the anatomical theatre by the pathologists, who also give practical instruction in Pathological Anatomy and Histology. The fees for hospital attendance are as follows—viz.: Perpetual ticket, in one payment, £12; annual ticket, £6 6*s.*; six months, £4 4*s.*; three months, £2 2*s.*; monthly, £1 1*s.* Separate payments amounting to £12 12*s.* entitle the student to a perpetual ticket. No fees are paid for any medical or surgical appointment. The appointments are as follows:—1. Resident physicians and surgeons are appointed, and live in the house free of charge. The appointment is for six months, but may be renewed at the end of that period by special recommendation. 2. Special non-resident clerks are appointed for six months. The appointment may be renewed for a like period by special recommendation. 3. Clerks and dressers are appointed by the physicians and surgeons. These appointments are open to all students and junior practitioners holding hospital tickets. 4. Assistants in the pathological department are appointed by the pathologists.

Edinburgh Eye, Ear, and Throat Infirmary, 6, Cambridge-street, Lothian-road.—Clinical Lectures and Instruction are given in this institution, which is open at 1 o'clock daily for out-door patients for Eye Diseases; Mondays, Thursdays, and Saturdays at 12 noon for out-door Ear Patients; and Tuesdays and Fridays at 4 P.M. for out-door Throat Patients. Those whose diseases require operations or more than ordinary care are accommodated in the house. Consulting Surgeon: Dr. Joseph Bell, F.R.C.S. Surgeons: Dr. J. J. Kirk Duncanson, Dr. G. Hunter Mackenzie, Dr. William George Sym, and Dr. Alexander Black. Dental Surgeon: Mr. G. W. Watson, L.D.S. Treasurer and Secretary: Mr. A. P. Purves, 12, Queen-street.

Glasgow Hospital and Dispensary for Diseases of the Ear, 28, Elmbank-crescent.—The hospital, which contains twelve beds for in-door patients, is always open for urgent cases. Hours of surgeons' visits 2 P.M. daily; clinical teaching daily. Out-patients are seen on Mondays, Tuesdays, Wednesdays, Thursdays, Fridays, and Saturdays, at 2 P.M., by Dr. Barr and assistants; and operations and special demonstrations to students and practitioners take place on Thursdays from 3 to 4 P.M.

Glasgow Western Infirmary.—This hospital adjoins the University of Glasgow. Number of beds upwards of 400. Special wards are set apart for Diseases of Women and for Affections of the Skin. In the out-patient department there are special cliniques for Diseases of Women and for Diseases of the Throat, Ear, and Teeth. The Clinical Courses are given by the Physicians and Surgeons, each of whom conducts a separate class, and students require to enter their names at the beginning of the session for the class which they propose to attend. Special instruction is given to junior students by tutors or assistants, and clinical clerks and dressers are selected from the members of the class. All the courses of clinical instruction are recognised by the University of Glasgow and the other boards in the kingdom. In the Pathological Department the course is both systematic and practical, and extends through the winter and following summer; these are likewise recognised by the University for graduation. Eight resident assistants are appointed annually, without salary, from those who have completed their course. The fee for the hospital practice, including the various courses of clinical instruction, is 20 guineas in one payment, or in two equal instalments for the first and second year; for six months, 7 guineas; and for three months, 4 guineas.

Royal Hospital for Sick Children, Glasgow, situated at Garnet-hill.—This hospital was opened in December, 1882, and is now available to medical students for clinical instruction in the diseases peculiar to childhood. The hospital includes 70 beds for non-infectious cases only. A specially designed Dispensary, or Out-patient Department, was opened in October, 1888. Students may be enrolled at any time. Fee, £1 1*s*. Particulars on applying to House Surgeon, 45, Hill-street, Garnet-hill, Glasgow.

GLASGOW OPHTHALMIC INSTITUTION, 126, West Regent-street (40 beds).—Clinical and systematic course of lectures for students during the winter and summer seasons. In-patients, 531; out- or dispensary patients, 3219. Operations on Wednesdays and Saturdays. Consulting Physician: Samuel J. Moore, Esq., M.D. Acting Surgeon: J. R. Wolfe, Esq., M.D., F.R.C.S.Ed. Acting Physician: J. S. Cumming, Esq., M.D. Assistant Surgeon: A. T. Thomson, M.D. This institution has recently been amalgamated with the Glasgow Royal Infirmary, of which it forms an integral part. The work is carried on provisionally at the above address until a new house is erected on the Infirmary ground.

GLASGOW EYE INFIRMARY, Berkeley-street and Charlotte-street.—This institution, the largest of its kind in the West of Scotland, was founded in 1824. The Infirmary now consists of two large buildings—that in Berkeley-street being occupied as the Infirmary proper, and that in Charlotte-street as a dispensary. The Infirmary is devoted exclusively to the treatment of Diseases of the Eye, and is intended primarily to provide treatment, and, when necessary, board and lodging for those who are unable to do so for themselves, and are properly recommended to the Directors. The average number of new patients for the last ten years has been 10,381·5, and the total number of cases treated in 1891 was 15,210. The Medical Staff is as follows:—Senior Surgeon: Thomas Reid, M.D., Waltonian Lecturer in the University of Glasgow. Surgeons: Thomas S. Meighan, M.D., A. Freeland Fergus, M.D., and A. Maitland Ramsay, M.D. Assistant Surgeons: William Robertson, M.B., C.M., Andrew Wilson, M.B., C.M., and James Hinshelwood, M.D. Pathologist: Robert M. Buchanan, M.B., C.M. House Surgeon: Leslie Buchanan, M.B. Consulting Surgeon: George Buchanan, M.D.

Regulations as to Attendance of Students.—(1) Gentlemen may attend as students on payment to the treasurer of the following fees:—For three months £1 1*s*., six months £2. 2*s*., twelve months £3 3*s*. (2) Students attending the Waltonian Lectures in the University of Glasgow may attend at the Infirmary for clinical instruction during the University Session without fee. Former Waltonian students may attend on payment of the following fees:—For six months £1 1*s*., twelve months £2 2*s*. (3) All students when duly entered in the Infirmary Register may attend the clinical instruction of any or every member of the medical staff on production of their tickets. The days on which the surgeons respectively attend to receive patients may be ascertained at the Infirmary. Secretary: William George Black, 88, West Regent-street.

ABERDEEN ROYAL LUNATIC ASYLUM.—Contains about 650 beds. Medical Superintendent: Dr. William Reid. Assistant Physicians: Drs. C. Angus and A. Davidson. Secretary: Mr. W. Carnie. Clinical instruction is given to students during three months in summer.

ABERDEEN ROYAL INFIRMARY.—Contains about 200 beds. Physicians: Drs. Angus Fraser and P. B. Smith, Professor Finlay, and Dr. James Rodger Assistant Physician. Surgeons: Professor A. Ogston, Drs. R. J. Garden and M. K. Booth, and J. S. Riddell Assistant Surgeon. Ophthalmic Surgeon: Dr. J. Mackenzie Davidson. Pathologist: Professor David James Hamilton. Dental Surgeon: Dr. Williamson. Treasurer and Secretary: Mr. W. Carnie.

IRISH SCHOOLS OF MEDICINE.

QUEEN'S COLLEGE SCHOOL OF MEDICINE, Belfast.—Eight Junior Scholarships have been founded in the Faculty of Medicine, of the annual value of £25 each. Two are tenable by matriculated students, of the first, second, third, and fourth year of their course respectively. The examinations for Junior Scholarships in the Faculty of Medicine take place at the commencement of the session. Matriculated students in Medicine intending to compete for Medical Scholarships of the second year must be of not more than one year's standing as students of Medicine, and must have attended, in some of the Queen's Colleges, or in a university capable of granting degrees in Medicine, two at least of the following courses—viz.: Chemistry, Botany and Zoology, Anatomy and Physiology, Materia Medica and Pharmacy, Practical Chemistry, Practical Anatomy. Matriculated students in Medicine intending to compete for Medical Scholarships of the third year must be of two years' standing and not more, and must have attended, in some of the Queen's Colleges, or in a University capable of granting degrees in Medicine, four at least of the following courses—viz.; Chemistry, Botany, and Zoology, Anatomy and Physiology, Materia Medica and Pharmacy, Practical Chemistry, Practical Anatomy. Matriculated students in Medicine intending to compete for Medical Scholarships of the fourth year must be of three years' standing and not more, and must, in addition to the qualifications prescribed above, have attended, in their third year, two at least of the following courses—viz.: Theory and Practice of Medicine, Theory and Practice of Surgery, Midwifery, and Diseases of Women and Children.

QUEEN'S COLLEGE SCHOOL OF MEDICINE, Cork.—The building is provided with a very large, well-ventilated dissecting room, with physiological and toxicological laboratories, materia medica, anatomical and pathological museums, as well as a room for surgical and obstetrical instruments and appliances. There are well-appointed physical and chemical laboratories, and a large natural history museum in the adjoining building, and part of the College ground is laid out as a botanical garden. The plant houses are now completed and well filled with plants, and are open to the students in the class of Botany.

Fees.—For Practical Anatomy and for Practical Chemistry, £3 each course; for Anatomy and Physiology, £3 first course, and £2 for each subsequent course. Other medical classes, £2 first course, and £1 each subsequent course. Eight scholarships (value about £30 each), as well as several exhibitions and class prizes, are awarded every year.

IRISH ANCILLARY MEDICAL SCHOOLS.

ADELAIDE MEDICAL AND SURGICAL HOSPITALS, Peter-street, Dublin.—Fee for nine months' hospital attendance, £12 12*s*.; six months, £8 8*s*. Summer, three months, £5 5*s*.

Staff.—Physicians: Henry H. Head, M.D., M.R.I.A.; James Little, M.D., M.R.I.A. Surgeons: J. Kellock Barton, M.D., F.R.C.S.I.; Kendal Franks, M.D., F.R.C.S.I.; F. T. Heuston, M.D., F.R.C.S.I.; J. H. Scott, M.B., F.R.C.S.I. Obstetric Surgeon: R. D. Purefoy, M.B., F.R.C.S.I. Ophthalmic Surgeon: H. R. Swanzy, M.B., F.R.C.S.I. Assistant Physicians: Wallace Beatty, M.D., F.R.C.P.I.; H. F. Bewley, M.D., F.R.C.P.I. House Surgeon: F. W. Staunton, M.B., B.Ch.

A resident surgeon is elected yearly, and three resident pupils half-yearly. At the termination of the session, prizes in Clinical Medicine and Surgery, and in Obstetric Medicine, will be awarded.

Hudson Scholarship.—In addition to the junior prizes, the Hudson Scholarship, £30 and a gold medal, as well as a prize of £10, together with a silver medal, will be awarded at the end of the session for proficiency in Clinical Medicine and Medical Pathology, Clinical Surgery and Surgical Pathology, Pathological Histology, Surgical Appliances, including instruments and bandaging, Ophthalmology and Gynæcology.

The certificates of attendance are recognised by all the universities and licensing bodies in the United Kingdom.

COOMBE LYING-IN HOSPITAL AND GUINNESS DISPENSARY FOR THE TREATMENT OF DISEASES PECULIAR TO WOMEN.—This hospital contains nearly 70 beds, and consists of two divisions, one of which is devoted to lying-in cases, and the other to the treatment of the diseases peculiar to women. The maternity department is one of the largest in Ireland, 3000 cases being annually treated either as intern or extern patients. A regular course of lectures is delivered in the hospital, and clinical instruction is given daily at the bedside. There are two large dispensaries connected with the institution, at one of which instruction is given on the general diseases of women and children, and, in the other, on the diseases peculiar to women. There is accommodation for a limited number of intern pupils, who enjoy exceptional advantages of acquiring a practical knowledge of this branch of their profession. Two Resident Pupil

TABULAR LIST OF THE CLASSES, LECTURERS, AND FEES, AT THE MEDICAL SCHOOLS OF IRELAND, FOR THE SESSION 1892-93.

LECTURES, &c.	DUBLIN UNIVERSITY.	DUBLIN R. C. OF SURGEONS.		DUBLIN, CATHOLIC UNIVERSITY.		BELFAST, QUEEN'S COLLEGE.		CORK, QUEEN'S COLLEGE.		GALWAY, QUEEN'S COLLEGE.	
	LECTURERS.	LECTURERS.	FEES.	LECTURERS.	FEES.	LECTURERS.	FEES. First Course.	LECTURERS.	FEES. First Course.	LECTURERS.	FEES. First Course.
HISTOLOGY AND PHYSIOLOGY	...	Prof. Scott	Course, £3 3s., in all Classes, ex. Dessr. Anat. (£5 5s.), Oper. Surg. (£5 5s.), Prac. Chem. (£5 5s.), Oph. & Aur. Surg. & Hygiene, which are free.	Dr. Coppinger & Dr. Coffey	£3 3s. each Course, except Dissections and Prac. Chem., which are £5 5s. each.	Dr. P. Redfern	£ s. 3 0	Dr. J. J. Charles	£ s. 3 0	Dr. Pye	£ s. 3 0
ANATOMY, DESCRIPTIVE AND SURGICAL	Dr. Cunningham Dr. Brooks	Profs. Fraser, Houston, & Nixon		Dr. Birmingham		Dr. P. Redfern	...		...	Dr. Pye	...
PRACTICAL ANATOMY AND DISSECTIONS	Dr. Cunningham Dr. Brooks	Profs. Fraser, Houston, & Nixon		Dr. Birmingham, assisted by Drs. O'Carroll, Fagan, & Dempsey		Dr. Campbell	3 0	Dr. Charles and Demonstrators	3 0	Dr. Pye and Demonstrators	4 0
CHEMISTRY	Dr. Reynolds	Profs. Sir C. Cameron & Lapper		Dr. Campbell		Dr. Letts	2 0	Dr. Augustus E. Dixon	2 0	Dr. Senier	3 0
PRACTICAL CHEMISTRY... ...	Dr. Reynolds			Dr. Campbell *		Dr. Letts†	3 0	Dr. Augustus E. Dixon	3 0	Dr. Senier	3 0
MATERIA MEDICA AND PHARMACY	Dr. W. G. Smith	Profs. Macnamara & Duffey		Dr. Quinlan *		Dr. W. Whitla	2 0	Dr. C. Y. Pearson	2 0	Dr. Colahan	2 0
BOTANY AND ZOOLOGY	Dr. Wright Prof. Mackintosh	Profs. Minchin & Cosgrave		Dr. Sigerson* & Mr. Blaney		Dr. R. O. Cunningham‡	2 0	Professor Hartog	2 0 each	Dr. R. J. Anderson	3 0
INSTITUTES OF MEDICINE AND PATHOLOGY	Dr. Purser	Prof. Myles		Dr. McWeeney		...	...	...	...	Dr. Lynham	...
NATURAL PHILOSOPHY... ...	Prof. FitzGerald	...		Prof. Stewart		Dr. J. D. Everett (*in Winter*)	3 0	Mr. J. England	3 0	Prof. Anderson	3 0
HOSPITAL PRACTICE	SIR P. DUN'S OR OTHER DUBLIN HOSPITAL.	...		...		BELFAST ROYAL, AND OTHER HOSPITALS.	...	NORTH AND SOUTH INFIRMARIES.	...	GALWAY INFIRMARY & TOWN HOSPITAL.	Sess 4 4
CLINICAL LECTURES	...	...		...		...	...	...	...	Drs. Kinkead, Pye, Brereton, Colahan, & Lynham	...
SURGERY...	Dr. E. H. Bennett	Profs. Sir W. Stokes, Hamilton, & W. Stoker		Mr. J. P. Hayes		Dr. Sinclair	2 0	Dr. S. O'Sullivan	2 0	Dr. W. Brereton	3 0
OPERATIVE SURGERY	...			...		...		...		...	
MIDWIFERY, &c....	Mr. Macan	Drs. Roe & S. R. Mason		Dr. A. J. Smith		Dr. Dill	3 0	Dr. Corby	3 0	Dr. Kinkead	3 0
MEDICINE	Dr. Finny	Profs. Foot & J. W. Moore		Dr. C. J. Nixon		Dr. Cuming	2 0	Dr. E. R. Townsend	3 0	Dr. Lynham	3 0
MEDICAL JURISPRUDENCE ..	Dr. Bewley	Prof. Auchinleck		Dr. Roche		Dr. Hodges†	2 0	Dr. C. Yelverton Pearson	...	Dr. Senier	3 0
COMPARATIVE ANATOMY ...	Prof. Mackintosh	Profs. Macnamara and Duffey		Dr. Sigerson & Mr. Blaney ...		...	...	...	2 0	Dr. Kinkead [*Modern Languages:* Prof. Steinberger]	..
PRACTICAL PHARMACY... ...	Dr. W. G. Smith	[*Hygiene:* Profs. Sir C. Cameron & Macnamara]		Dr. Quinlan		...	...	...	...	...	2 2
LOGIC	The College Tutors	...		... [*Ophthalmology:* Dr. D. D. Redmond] [*Medical Registrar:* Dr. Birmingham]		...	...	Professor Stokes	1 0	Dr. T. W. Moffett	...
PSYCHOLOGICAL MEDICINE	...	...		...		...	...	Dr. Oscar Wood	...	...	...
PATHOLOGY...	Dr. Purser	Prof. Myles		Dr. McWeeney		Dr. W. H. Barrett	3 0	Dr. Cotter	2 0	Dr. Lynham	...
OPHTHALMOLOGY AND OTOLOGY	...	Profs. Jacob, Fitzgerald, & Story		...		...	...	Dr. Sandford	...	...	...
HYGIENE	Dr. Bewley	Sir Charles Cameron		...		...	...	Dr. Donovan	...	...	...

* In Summer. † In Winter and in Summer. ‡ Zoology in Winter; Botany in Summer.

Midwifery Assistants and one Clinical Clerk are elected half-yearly *from among* the pupils of the hospital. Certificates of attendance at this hospital are accepted by all licensing bodies, and the diploma is recognised by the Local Government Board as a full legal midwifery qualification. Fees (six months' course): Extern pupils, 8 guineas, half payable in advance; intern pupils, 18 guineas for six months' residence. If pupils enter as interns by the month, the fees are £4 4*s.* for first month, and £3 3*s.* for each succeeding month. Intern pupils enjoy very special advantages, which can be learned on application. Registration fee on entrance, 10*s.* 6*d.* Students can enter for attendance at any time. Further particulars may be had on application to the Master or the Registrar at the hospital.

Sir Patrick Dun's Hospital.—Fees for attendance of students—nine months, £12 12*s.*; six months, £8 8*s.*; three months, £5 5*s.* The hospital is open to extern students as well as to the students of Trinity College, and the certificates are recognised by all the licensing bodies in the kingdom. Dr. Ball, Secretary to the Medical Board, will give any further information.

Mater Misericordiæ Hospital, Dublin.—Consulting Physician: Dr. Francis R. Cruise. Physicians: Drs. Christopher J. Nixon, Joseph M. Redmond, Michael A. Boyd, and John Murphy. Surgeons: Messrs. Patrick J. Hayes, Charles Coppinger, Arthur Chance, and John Lentaigne. Obstetric Physician: Dr. Thos. More Madden. Ophthalmic Surgeon: Mr. Louis Werner. Dental Surgeon: Mr. Daniel Corbett, jun. Pathologist: Mr. Edmond J. McWeeney. House Physician: Dr. Frank Dunne. House Surgeons: Messrs. Jeremiah Dowling and Michael O'Sullivan. This hospital, the largest in Dublin, at present containing 311 beds, is open at all hours for the reception of accidents and urgent cases. Fifty beds are specially reserved for the reception of patients suffering from fever and other contagious diseases. Instruction at the bedside will be given by the Physicians and Surgeons at 9 A.M. daily. Clinical Instruction will commence on Monday, October 3rd, at 9 o'clock A.M. A course of Clinical Instruction on Fever will be given during the winter and summer sessions. A certificate of attendance upon this course, to meet the requirements of the licensing bodies, may be obtained. Opportunities are afforded for the study of Diseases of Women in the ward under the care of the Obstetric Physician, and at the Dispensary held on Tuesdays and Saturdays. Ophthalmic Surgery will be taught in the Special Wards and Dispensary. Surgical Operations will be performed on Mondays, Tuesdays, Thursdays and Saturdays, *at 10 o'clock. Connected with* the hospital are extensive Dispensaries, which afford valuable opportunities for the study of general Medical and Surgical Diseases, Accidents, &c. Instruction will be given on Pathology and Bacteriology. Junior Appointments: A House Physician and two House Surgeons will be appointed annually. Eight resident pupils will be elected from the most attentive of the class to hold office for six months. *For the current session* the elections will take place on Nov. 1st, 1892, and May 1st, 1893, at 11 o'clock A.M. Dressers and Clinical Clerks will be appointed, and certificates will be given to those who perform their duties to the satisfaction of the staff. Leonard Prizes: One Gold and one Silver Medal will be offered for competition annually, in the subject of Medicine, and one Gold and one Silver Medal in the subject of Surgery. Junior Leonard Prizes: One prize value £3 and one prize value £2 will be awarded in Medicine and one prize value £3 and one prize value £2 will be awarded in Surgery. They will be awarded on the aggregate of *marks gained for Reports of* Cases and at a Clinical Examination to be held at the close of the summer session. For further particulars see prospectus. Certificates of attendance upon this hospital are recognised by all the Universities and licensing bodies in the United Kingdom. Private Wards have been opened for the reception of Medical and Surgical cases. A Training School and Home for Trained Nurses have been opened in connexion with the Hospital.

Terms of attendance.—Nine months, £12 12*s.*; six winter months, £8 8*s.*; three summer months, £5 5*s.* A prospectus containing in detail *the arrangements for* Clinical Instruction, Prizes, &c., may be obtained from the Secretary, Dr. Joseph Redmond, 8, Clare street.

Richmond, Whitworth, and Hardwicke Hospitals, North Brunswick street, Dublin.—These hospitals contain 312 beds—110 for Surgical cases, 82 for Medical cases, and 120 for Fever and other epidemic diseases.

Rotunda Hospital, Rutland-square, Dublin.—This institution consists of two distinct hospitals—namely, the Lying-in Hospital and the Auxiliary Hospital, the latter for the reception of patients suffering from Uterine and Ovarian Diseases. There is also a large *extern maternity* and a Dispensary for Diseases peculiar to Women, which is open daily. Clinical instruction is given daily (Saturdays excepted) in Midwifery and the Diseases peculiar to Women, special attention being directed to the application of antiseptics in midwifery, and lectures on these subjects are delivered regularly throughout the session. Accommodation is provided for a limited number of intern pupils.

Dr. Steevens's Hospital.—This hospital, containing beds for 250 patients, is situated close to the Kingsbridge Terminus of the Great Southern and Western Railway, occupying a position in the centre of one of the busiest manufacturing districts of the city, otherwise unprovided with medical institutions, and affords exceptional advantages for clinical instruction. Immediately adjoining is St. Patrick's (Swift's) Asylum for the Insane. The hospital is easily accessible by two lines of tramways. There is a ward entirely devoted to Syphilitic Disease, a detached building for Fever Cases, and an extensive Out-patient Department, with separate Clinics for Diseases of the Skin, Throat, Eye, Ear and Teeth.

The hospital is visited daily at 8.30 A.M. by the resident surgeon, and at 9 A.M. by the physicians and surgeons. The surgical wards are also visited each evening. Clinical Lectures are given by the physicians and surgeons during the session. There is accommodation in the hospital for two medical and six surgical resident *clinical-assistants*, who, in addition to their rooms and furniture, are provided with coals and gas.

Fees.—Hospital Practice: Nine months, £12 12*s.*; six months, £8 8*s.*; three months, £5 5*s.* Dressership: £10 10*s.* each three months.

AMERICAN MEDICAL SCHOOLS.

The most important event in the forthcoming session of American schools is the announcement of the adoption of a four years' course by the three leading colleges, Harvard, the University of Pennsylvania and the College of Physicians and Surgeons of New York. The change is to take effect this session at Harvard. The credit of having been the first to adopt the four years' graded course belongs, however, to the University of Michigan, and it is gratifying to hear that the change has been most satisfactory.

University of Pennsylvania, Philadelphia.—The rapid increase in the number of students which has taken place in the past two sessions, while taxing the teaching capacity, has been a gratifying indication that the profession is ready for higher medical education. The fourth session, which will be compulsory on all students entering after October, 1893, will, it is anticipated, cause a reduction in the income of about 25 *per cent.*, and *to meet this probable* deficit a guarantee fund has been raised. An important recent event in this school was the opening of the Hygiene Laboratory. The cost of the building *(\$50 000)* was provided by the well-known medical publisher, Henry C. Lea; and an Endowment Fund of nearly \$200,000 has been raised by the Provost, Dr. Pepper, under whose guidance during the past ten years the University has so rapidly developed in all its branches. The Laboratory is under the direction of Dr. John S. Billings, of the Army Medical Department, who devotes a certain amount of time each week to the work. *The practical classes are under the* control of Dr. A. C. Abbott. Dr. Hayes Agnew, the Nestor of American surgeons, and Emeritus Professor in the school, died during the past session. As an acknowledgment, no *doubt*, of the great value of his connexion with the medical school, he left \$50,000 to the University Hospital. The death is also announced of *Dr.* Formad, the *Demonstrator of Pathology*, who as coroner's physician was of great service in supplying the classes with material in morbid anatomy.

Harvard.—For the first time one of the large schools of the Eastern States opens with a four years' curriculum. It is *just twenty years ago* since Harvard adopted a compulsory three years' course, and the success which followed this, as well as other important changes, is the best guarantee for the future. The Sears Laboratory for Pathology and Bacteriology is now fully equipped and in working order. Dr. Ernst has been appointed Professor of Bacteriology. Dr. Fitz has been transferred from the chair of Pathology to that of Medicine, and the vacancy thus caused in the former has been filled by the appointment of Dr. Councilman, Associate Professor of Pathology in the Johns Hopkins University. It is rumoured that Dr. Howell, the Professor of Physiology in the University of Michigan, is to join the Harvard School as associate of Dr. Henry P. Bowditch, whose executive duties as Dean do not enable him to devote sufficient time to laboratory teaching. Efforts are being made by friends of the school to organise a hospital under the control of the Faculty. The clinical advantages of the Massachusetts General and the Boston City Hospitals are ample and readily available, but in appointments to the practical chairs the choice at present is limited to men holding positions on the staff of one or other of these hospitals, and this is felt to be an anomaly. Mention must be made of the death during the past session of Dr. Henry I. Bowditch, the Emeritus Professor of Clinical Medicine, whose work did so much to extend the reputation of the school.

College of Physicians and Surgeons of New York.—The magnificent gifts of the Vanderbilt family have enabled the school to take an advanced position among the teaching bodies. The recent union with Columbia College, the oldest and richest of the universities in the State of New York, which guarantees the salaries of the professors, has made progress easy, and within a short time of the adoption of a compulsory three years' course a fourth year is announced. No changes of any moment have occurred on the teaching staff. Dr. McBurney's new operating theatre, by far the most elaborate and costly on the continent, has been completed.

Johns Hopkins University.—The undergraduate department in medicine has not yet been organised, as the professors of pharmacology and anatomy have not yet been appointed. It is hoped that at an early date the funds of the University will permit of the building of the necessary laboratories for these branches. Meanwhile graduate teaching is carried on at the hospital and in the pathological laboratory. Qualified practitioners are admitted to the wards and operating rooms on payment of a fee of $100 or for a less sum to the individual clinics. During the months of January, February, and March there is a regularly organised graduate course, with lectures, demonstrations, and ward work—Professor Osler and assistants in Medicine, Professor Halsted in Surgery, and Professor Kelly in Gynæcology. Special students are admitted at any time. In the Pathological Department (Professor Welch) systematic instruction is given throughout the winter in Morbid Anatomy and Histology, and in Bacteriology (Dr. Nuttal). Several changes in the *personnel* of the staff have occurred within the past year. Dr. Councilman, Associate in Pathology, has been called to the chair of Pathology at Harvard; Dr. Abbott has gone to the Hygienic Institute of the University of Pennsylvania, and is succeeded as bacteriologist by Dr. Nuttal; Dr. [illegible] succeeds Dr. Councilman as Associate in Pathology; and Dr. Barker has been appointed Fellow in Pathology.

CANADIAN MEDICAL SCHOOLS.

McGill University.—No special changes have occurred. Steps are being taken to raise money for the pathological department, and an advertisement has appeared in our columns asking for applications for the chair of Pathology. Among the candidates are Drs. Savill and Ruffer of London and Dr. Muir of Edinburgh. Dr. George Ross, the Professor of Medicine, who has been in ill-health, has associated with him in the chair Dr. Lafleur, lately first assistant in the medical clinic at the Johns Hopkins Hospital.

The new clinical wards and amphitheatre at the Montreal General Hospital are ready for occupation, and will materially enhance the teaching facilities. The Royal Victoria Hospital is approaching completion.

MEDICAL TEACHERS.

Mr. J. Beckton, assisted by his son, H. Beckton, B.A. (Graduate in Honours, late Scholar of Clare College, Cambridge), prepares candidates for the London Matriculation, Medical and Law Preliminary, University Entrance, Local, and other Examinations. Boarders received.—19, Keppel-street, late 149, Gower-street, W.C.

Mr. J. Coates, 1st B.A., M.C.P., prepares candidates for Matriculation, College of Preceptors, Apothecaries' Hall, Pharmaceutical Society, and the Professional Examinations of the Conjoint Board of the Royal Colleges of Surgeons and Physicians. Laboratory fitted with every requisite. Terms moderate.—30 to 32, Ludgate-hill, E.C.

M.D., B.S. Lond., M.R.C.P.Lond., prepares Personally and by Correspondence in a systematic and thorough manner for all the Examinations of the Colleges of Physicians and Surgeons, the Universities, the Services, the M.D.'s of Durham, St. Andrews, and Brussels, and for the Apothecaries' Hall.—64, Guilford-street, Russell-square, W.C.

Mr. A. H. Dawes, 1st B.A. Lond., gives lessons privately, in class or by post, in preparation for the London Matriculation and Medical Preliminary Examinations.—55 and 56, Chancery-lane, W.C.

Mr. J. Gibson, M.A., prepares candidates for the London Matriculation and Preliminary Medical and Legal Examinations.—Quernmore, Bromley, Kent, and 24, Chancery-lane, E.C. Mr. Gibson brings out directly after each examination a "Guide" containing the questions set at the examination, followed by solutions in full.

Mr. Ent Gooch, B.Sc. (Honours) Lond., B.A. Lond., F.G.S., (for many years associated with the late Mr. H. Sergeant, B.A.), assisted by experienced graduates, prepares for Preliminary Scientific, B.Sc. degree, Conjoint Board, Matriculation, and Preliminary Medical. Special Classes in Chemistry, Materia Medica, Botany, Zoology, Anatomy, and Physiology. Laboratory work. Recently passed fifteen.—33, Alfred-place, Gower-street, W.C.

Mr. Frank W. Gregg, "Ruby House," Mayflower-road, Clapham, S.W., instructs pupils for the London Matriculation Examination and all Medical Preliminary and Scientific Examinations required by the various Examining Boards. Mr. Gregg will receive boarders on moderate terms, which may be had on application.

Mr. A. J. Mainwaring, M.A., 1st M.B.Cantab., prepares candidates for all Preliminary Examinations.—115, Edith-road, West Kensington.

Mr. John T. Sarll, B.A. Lond, (for eighteen years with the late Mr. Henry Sergeant), holds special classes, morning and evening, for London University Matriculation, the Preliminary Medical Examinations, &c.—University Institute, 192, Euston-road.

Mr. Henry Waite prepares pupils for Matriculation, Preliminary Scientific, and the Examinations for Medical Registration of all the licensing bodies.—25, Dingwall-road, Earlsfield road, Wandsworth.

Mr. J. Woodland, F.L.S., F.C.S., &c. (late Lecturer on the Art of Prescribing, and Teacher of Materia Medica at St. George's Hospital), reads privately with men for University and other examinations.—Interview at 173, Marylebone-road, N.W., by appointment only.

Instructors in Elocution &c.

Dr. Altschul has made Stuttering, Stammering, Lisping, Falsetto, recent or of long standing, due to Nervousness, &c., irrespective of Age or Sex (without any Mechanical appliances), his Special, Life-long study. The Voice greatly Developed and Strengthened.—9, Old Bond-street, W. (attends at Brighton).

Mr. H. N. Dixon, M.A. Lond. and Cambridge, F.L.S., gives a thorough and high-class Education to Deaf Children, based upon the Oral Method. Special arrangements made for very young children.—Apply, Wickham House, East Park Parade, Northampton.

Mr. William Van Praagh, the public introducer of the Pure Oral System of Teaching Deaf Mutes, has made the subject of Lip-reading and the cure of all Defects of Speech, both acquired and congenital, his special study. Papers on the various subjects can be had free at 11, Fitzroy-square, W.

Mr. H. W. White educates Deaf and Dumb Children of the higher classes on the Pure Oral System; also deals with cases of Defective Speech, and has many testimonials from parents. Lip reading lessons given to adults who have lost their hearing. References to the highest medical authorities.—13, Sinclair Gardens, Kensington, W. Next term Sept. 29th.

CLINICAL INSTRUCTION IN INFECTIOUS DISEASES.

The Metropolitan Asylums Board now offer facilities to students whereby they may obtain instruction in the subject of infectious diseases supplemented by clinical observation of cases at any of the fever hospitals of the Board, and classes open to students and qualified men are held at the Eastern Hospital, Homerton; the North-Western Hospital, Haverstock-hill; the Western Hospital, Fulham; the South-Western Hospital, Stockwell; and the South-Western Hospital, New Cross-road, three times during the year. The next course will begin early in October. A certificate of attendance, now required by the Conjoint Board of the Royal Colleges of Physicians and Surgeons, as part of the five years' curriculum of every medical student entering the profession, is granted to students who have satisfactorily completed a course of study. The fee for attendance is three guineas for a course of two months. Applications should be made to the Clerk to the Metropolitan Asylums Board, Norfolk House, Norfolk-street, Strand, from whom all necessary information can be obtained.

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY.

THE following list is as nearly complete as the Editors have been able to make it, and gives such prizes as would enter into a Student's calculation of the cost of Medical education. It does not contain prizes of less value than £10, or prizes of greater than this value which are given in any form except money or necessaries of medical study and research:—

INSTITUTION.	TITLE OF SCHOLARSHIP &C.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
OXFORD UNIVERSITY ..	Burdett-Coutts Scholarships.	£80 per annum.	2 years.	Competitive Examination.	....
	Radcliffe Trav. Fellowship.	£200 " "	3 years.	Ditto.	Foreign Travel for purpose of Medical Study.
	Rolleston Prize.	£60 " "	....	Original Research.	
LONDON UNIVERSITY ..	....	£40 per annum.	2 years.	By first place with distinction in ANATOMY at July Intermediate M.B. Examination.	M.B. taken within 3 years.
		£40 per annum.	2 years.	By first place, with distinction in PHYSIOLOGY AND HISTOLOGY at July Intermediate M.B. Examination.	Ditto.
		£30 per annum.	2 years.	By first place with distinction in ORGANIC CHEMISTRY at July Intermediate M.B. Examination.	Ditto.
		£30 per annum.	2 years.	By first place with distinction in MATERIA MEDICA and PHARMACEUTICAL CHEMISTRY at July Intermediate M.B. Examination.	Ditto.
	University Scholarship in Medicine.	£50 per annum.	2 years.	By first place with distinction in MEDICINE at M.B. Honours Examination.	Ditto.
	University Scholarship in Obstetric Medicine.	£30 per annum.	2 years.	By first place with distinction in OBSTETRIC MEDICINE at M.B. Honours Examination.	
	University Scholarship in Forensic Medicine.	£30 per annum.	2 years.	By first place with distinction in FORENSIC MEDICINE at M.B. Honours Examination.	
	University Scholarship in Surgery.	£50 per annum.	2 years.	By first place with distinction in B.S. Honours Examination.	
*EDINBURGH UNIVERSITY	Theses Gold Medals.	....	....	Candidates for M.D. who present Theses of high merit.	None.
	Syme Surgical Fellowship.	£105 17s. 6d. per annum.	2 years.	Competitive Thesis by M.B. of not more than three years' standing.	None.
	Leckie Mactier Fellowship.	£70 per annum.	3 years.	Competitive Examination among M.B.'s of not more than three years' standing.	
	Sibbald Scholarship.	£40 per annum.	3 years.	Competitive Examination among University Students.	None.
	Hope Prize.	£25.	....	Distinction in MINOR CHEMICAL CLASS.	None.
	Vans Dunlop Scholarship.				
	" No. 1.	£100.	3 years.	First place in MEDICAL PRELIMINARY EXAMINATION.	None.
	" No. 2.	£100.	3 years.	NAT. HISTORY, BOTANY, and GEOLOGY.	None.
	" No. 3.	£100.	3 years.	Highest marks in Class Examinations in PHYSIOLOGY and SURGERY.	None.
	" No. 4.	£100.	3 years.	Competitive Examination in ANATOMY, PHYSIOLOGY, MATERIA MEDICA, and PATHOLOGY.	One year's study at the University, and 2 years' original research
	Murchison Memorial Scholarship.	Interest on £1000.	1 year.	Competitive Examination in CLINICAL MEDICINE among registered Students of Medicine.	None.
	Buchanan Scholarship.	Interest on £1000.	1 year.	Competitive Examination and Class Work in MIDWIFERY and GYNÆCOLOGY.	None.
	James Scott Scholarship.	£45 per annum.	1 year.	Competitive Examination and Class Work in MIDWIFERY.	None.
	Ettles Scholarship in Medicine.	£35.	....	Distinction in M.B. and M.S. Examination.	None.
	Mackay Smith Scholarship in Chemistry.	£25 per annum.	2 years.	Competitive Examination in CHEMISTRY among University Students.	None.
	Sibbald Bursary.				
	" No. 1.	£30.	....	....	....
	" No. 2.	£30.	....	....	....
	Heriot Bursary.				
	" No. 1.	£30 per annum.	3 years.	Competitive Examination among Matriculating Students.	None.
	" No. 2.	£30 per annum.	3 years.	Ditto.	None.
	Thomson Bursary.				
	" No. 1.	£25 per annum.	4 years.	Distinction in Preliminary Medical Examination.	None.
	" No. 2.	£25 per annum.	4 years.	Distinction in Preliminary Medical Examination.	None.
	Grierson Bursary.				
	" No. 1.	£20 per annum.	1 year.	Distinction in Preliminary Medical Examination. (Holder must be native of Crawford or Leadhills.)	None.
	" No. 2.	£20 per annum.	1 year.	Competitive Examination in CHEMISTRY, BOTANY, and NATURAL HISTORY among Second-year Students. (Holder must be native of Crawford or Leadhills.)	None.
	" No. 3.	£20 per annum.	1 year.	Ditto.	None.

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* Several Fellowships, Scholarships, Bursaries, &c., are not mentioned in the above list, which are occasionally vacant in alternate years.

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION.	TITLE OF SCHOLARSHIP &C.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
INBURGH UNIVERSITY —*continued.*	Grierson Bursary.				
	,, No. 4.	£20 per annum.	1 year.	Competitive Examination in ANATOMY and PHYSIOLOGY among Third-year Students. (Holder must be native of Crawford or Leadhills.)	None.
	,, No. 5.	£20 per annum.	1 year.	Competitive Examination in MATERIA MEDICA and PATHOLOGY among Fourth-year Students. (Holder must be native of Crawford or Leadhills.)	——
	Dr. J. A. Carlyle Bursary.				
	,, No. 1.	£25 per annum.	1 year.	Proficiency in Class Examinations in ANATOMY and CHEMISTRY.	None.
	,, No. 2.	£25 per annum.	1 year.	Proficiency in Class Examinations in ANATOMY and PHYSIOLOGY.	None.
	Mackenzie Bursary.				
	,, No. 1.	£21 5s.	....	Industry and Skill in Junior Class work of PRACTICAL ANATOMY.	None.
	,, No. 2.	£21 5s.	....	Industry and Skill in Senior Class work of PRACTICAL ANATOMY.	None.
	Beaney Prize.	*£37 10s.*	....	*Highest Marks taken in* ANATOMY, SURGERY, and CLINICAL SURGERY, *by University Student in* M.B. and C.M. Examinations.	*None.*
	Hope Chemistry Prize.	£100.	....	Competitive Examination among University Students.	None.
	Neil Arnott Prize.	£42.	....	Distinction in Natural Philosophy in the M.A. Examination.	None.
	Wightman Prize.	£10 10s.	....	Competitive Reports on Cases by Clinical Students.	None.
T. BARTHOLOMEW'S MEDICAL SCHOOL	Entrance Scholarships No 1.	£75.	....	Open Competitive Examination in PHYSICS and CHEMISTRY.	Full Course at St Bartholomew's Hospital.
	,, No. 2.	£75.	....	Open Competitive Examination in BIOLOGY and PHYSIOLOGY.	Ditto.
	,, No. 3.	£150.	....	Open Competitive Examination in PHYSICS, CHEMISTRY, and BIOLOGY.	Ditto.
	Preliminary Scientific Exhibition.	£50.	....	Open Competitive Examination in PHYSICS, CHEMISTRY, and BIOLOGY.	Ditto.
	Jeaffreson Exhibition.	£20.	....	Open Competitive Examination in LATIN, MATHEMATICS, and GREEK, FRENCH, or GERMAN.	None.
	Shuter Scholarship.	£50.	....	Competitive Examination among Cambridge Graduates in ANATOMY, PHYSIOLOGY, and MATERIA MEDICA.	None.
	Junior Scholarship.				
	,, No. 1.	£30.	....	Competitive Examination among Students in ANATOMY and PHYSIOLOGY.	None.
	,, No. 2.	£20.	....	Ditto.	None.
	Senior Scholarship.	£50.	....	Competitive Examination among Students in ANATOMY, PHYSIOLOGY, and CHEMISTRY.	Study at St. Bartholomew's Hospital.
	Kirkes' Scholarship.	£30 and Medal.	....	Competitive Examination among Students in *CLINICAL MEDICINE.*	
	Brackenbury Scholarships.				
	,, No. 1.	£30.	....	Competitive Examination among Students in MEDICINE.	
	,, No. 2.	£30.	....	Competitive Examination among Students in SURGERY.	
	Lawrence Scholarship.	£42 and Medal.	....	Competitive Examination among Students in SURGERY, MEDICINE, and MIDWIFERY.	None.
	Sir Geo. Burrows' Prize.	£10 10s.	....	Competitive Examination in PATHOLOGY among Students.	
	Skynner Prize.	£15.	....	Competitive Examination in REGIONAL and MORBID ANATOMY among Students.	
CHARING-CROSS HOSPITAL AND COLLEGE	Entrance Scholarships.				
	,, No. 1.	£105.	....	Open Competitive Examination in any three of the following groups of subjects: (1) ENGLISH, *including* LANGUAGE, LITERATURE, HISTORY, and GEOGRAPHY; (2) LATIN and GREEK; (3) FRENCH and GERMAN; (4) MATHEMATICS, including ARITHMETIC, ALGEBRA, and GEOMETRY, and MECHANICS, including STATICS and DYNAMICS; (5) CHEMISTRY (INORGANIC) and PHYSICS, including ACOUSTICS, HEAT, and ELECTRICITY; and (6) ANIMAL and VEGETABLE BIOLOGY.	Full Course at Charing-cross *Hospital.*
	,, No. 2.	£52 10s.	....	Ditto.	Ditto.
	,, No. 3.	£52 10s.	....	Competitive Examination in ANATOMY and PHYSIOLOGY, open to Students from the University of Oxford who have passed the First M.B. Examination, and to Students from the University of Cambridge who have passed the Second M.B. Examination, and who have not entered at any London Medical School.	Completion of Curriculum at Charing-cross Hospital.

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION.	TITLE OF SCHOLARSHIP &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
LONDON HOSPITAL—*continued.*	Scholarship.	£25.	....	Competitive Examination in ANATOMY, PHYSIOLOGY, AND CHEMISTRY.	
	,,	£20.	....	Competitive Examination in ANATOMY and PHYSIOLOGY.	
	Dressers' Prize ,, No. 1.	£15.	....	ZEAL, EFFICIENCY, and KNOWLEDGE OF MINOR SURGERY.	
	,, No. 2.	£15.	....	Ditto.	
	,, No. 3.	£10.	....	Ditto.	
	,, No. 4.	£10.	....	Ditto.	
	,, No. 5.	£5.	....	Ditto.	
	,, No 6.	£5.	....	Ditto.	
	Triennially: Hutchinson Prize.	£35.	....	For the best essay upon a subject in CLINICAL SURGERY.	
	Practical Anatomy Prizes.	£6. £4.	....	....	
ST. MARY'S HOSPITAL ..	Natural Science Scholarship. No. 1.	£105.	....	Competitive Examination among Students in NATURAL SCIENCE.	
	,, No. 2.	£52 10s.	....	Ditto.	
	,, No. 3.	£52 10s.	....	Ditto.	
	,, No. 4.	£52 10s.	....	Ditto.	
		£135.	....	For Students from Epsom College being sons of Medical Men.	
		£52 10s.	....	Competitive Examination among Students from Oxford, Cambridge, or other University in SUBJECTS OF PRELIMINARY SCIENTIFIC EXAMINATION AT LONDON UNIVERSITY.	
		£20.	....	Competitive Examination among First-year Students.	
		£25.	....	Competitive Examination among Second-year Students.	
		£30.	....	Competitive Examination among Third-year Students.	
MIDDLESEX HOSPITAL ..	Entrance Scholarship. No. 1.	£50 per annum.	2 years.	Open Competitive Examination.	Course at Middlesex Hospital.
	,, No. 2.	£30 per annum.	2 years.	Ditto.	
	Exhibition.	£10 10s.	....	Competitive Examination among First-year Students in ELEMENTARY ANATOMY, OSTEOLOGY, and PHYSIOLOGY.	
	Broderip Scholarship. No. 1.	£30 per annum.	2 years.	Competitive Examination among Fourth-year Students in CLINICAL SUBJECTS.	
	,, No. 2.	£20 per annum.	2 years.	Ditto.	
	Governor's Prize.	£21.	....	Competitive Examination among Third-year Students in CLINICAL SUBJECTS.	
	Hetley Clinical Prize.	£25.	....	Ditto.	
	John Murray Gold Medal and Scholarship.	....	3 years.	Examination in MEDICINE, SURGERY, and OBSTETRICS.	
	Lyell Medal.	£5 5s.	....	Examination in SURGICAL ANATOMY and PRACTICAL SURGERY.	
ST. THOMAS'S HOSPITAL. SUMMER.	College Prizes. No. 1.	£15.	....	Competitive Examination among First-year Students.	
	,, No. 2.	£10.	....	Ditto.	
	,, No. 3.	£15.	....	Competitive Examination among Second-year Students.	
	,, No. 4.	£10.	....	Ditto.	
	,, No. 5.	£15.	....	Competitive Examination among Third-year Students.	
	,, No. 6.	£10.	....	Ditto.	
WINTER.	Entrance Science Scholarship. ,, No. 1.	£150	....	Competitive Examination in PHYSICS, CHEMISTRY, PHYSIOLOGY, BOTANY, or ZOOLOGY.	Perpetual Course
	,, No. 2.	£60.	....	Ditto.	Ditto.
	Wm. Tite Scholarship.	£27 10s.	....	Competitive Examination among First-year Students.	
	College Prizes.		....		
	,, No. 7.	£20.		Ditto.	
	,, No. 8.	£10.	....	Ditto.	
	Musgrove Scholarship.	£38 10s.	2 years.	Competitive Examination among Second-year Students.	
	Peacock Scholarship.	£38 10s.	2 years.	Ditto.	
	Grainger Testimonial Prize.	£15.	1 year.	For work in ANATOMY and PHYSIOLOGY.	
	Biennially: Beaney Scholarship	....	....	For SURGERY and SURGICAL PATHOLOGY.	
	College Prizes. ,, No. 9.	£20.	....	Competitive Examination among Second-year Students.	
	,, No. 10.	£10.	....	Ditto.	
	,, No. 11.	£20.	....	Competitive Examination among Third-year Students.	
	,, No. 12.	£15.	....	Ditto.	
	,, No. 13.	£10.	....	Ditto.	
UNIVERSITY COLLEGE, LONDON.	Entrance Exhibitions. No. 1.	£100.	....	Open Competitive Examination in CHEMISTRY, PHYSICS, BOTANY, and ZOOLOGY.	Perpetual Course at University College.
	,, No. 2.	£60.	....	Ditto.	Ditto.
	,, No. 3.	£40.	....	Ditto.	Ditto.

SCHOLARSHIPS GIVEN IN AID OF MEDICAL STUDY—*continued.*

INSTITUTION.	TITLE OF SCHOLARSHIP &c.	ANNUAL OR TOTAL VALUE.	HOW LONG TENABLE.	HOW OBTAINABLE.	CONDITIONS ATTACHED TO TENURE.
UNIVERSITY COLLEGE, LONDON—*continued.*	Atkinson Morley Scholarship.	£45 per annum.	3 years.	Theory and Practice of Surgery.	
	Atchison Scholarship.	£55 per annum.	2 years.	Competitive Examination among Medical Students.	
	Sharpey Physiological Scholarship.	£105.	....	Proficiency in Biological Science.	
	Filliter Exhibit'n.	£30.	1 year.	Competitive Examination among Students in PATHOLOGICAL ANATOMY.	
	Cluff Mem. Prize.	£15.	....	Competitive Examination among Students in ANATOMY, PHYSIOLOGY, and CHEMISTRY.	
	Erichsen Prize.	£10 10s.	....	Practical Surgery.	
	Morris Bursary.	£16.	2 years.	....	
WESTMINSTER HOSPITAL.	Natural Science Entrance Scholarship.	£60.	....	Competitive Examination in subjects of Preliminary Scientific of London University.	Perpetual Course at Westminster Hospital.
	Entrance Scholarship.	£30 per annum.	2 years.	Open Competitive Examination among Candidates under twenty-five years of age in LATIN, MATHEMATICS, EXPERIMENTAL PHYSICS, CHEMISTRY, and *FRENCH* or *GERMAN*.	Ditto.
	Guthrie Scholarship.	£30 per annum.	2 years.	Ditto.	
	„ No. 1.	£20 per annum.	2 years.	Ditto.	
	„ No. 2.	£20 per annum.	2 years.	Ditto.	
	„ No. 3.	£10 per annum.	2 years	Ditto.	
	„ No. 4.	£10 per annum.	2 years.	As above, save that Dental Students only can compete.	
	Rutherford Alcock.	£20 per annum.	2 years.	Open Competition in CHEMISTRY and EXPERIMENTAL PHYSICS.	
	Governors.	£20 per annum.	2 years.	Ditto.	
	Senior Scholarship.			For Students entering in the Summer Session	
	„ No. 1.	£20 per annum.	2 years.	Competitive Examination among Oxford and Cambridge Students in ANATOMY and PHYSIOLOGY.	
	„ No. 2.	£20 per annum.	2 years.	Ditto.	
	Treasurer's Prize.	£10 10s.	....	Competitive Examination among First-year Students in ANATOMY, PHYSIOLOGY, and CHEMISTRY.	
	President's Prize.	£21.	....	Competitive Examination among Second-year Students in ANATOMY, PHYSIOLOGY, and HISTOLOGY.	
	Chadwick Prize.	£21 in books or instruments.	....	Competitive Examination among Medical Students in ANATOMY, PHYSIOLOGY, HISTOLOGY, MEDICINE, SURGERY, and MIDWIFERY.	
	Bird Medal and Prize.	£14 in medal, books, or instruments.	....	Competitive Examination amongst Fourth-year Students in MIDWIFERY and DISEASES of WOMEN, MEDICINE, and PATHOLOGY.	
MASON COLLEGE, BIRMINGHAM.	Ingleby Scholarships (1 or more).	£10 to £15.	1 year.	Candidates must have spent first two years of curriculum at the College.	
	Sydenham Scholarship.	£10 10s. per annum.	3 years.	Award of Council to orphan sons of Medical Practitioner.	
	Sands Cox Scholarship.	£10 10s. per annum	3 years.	Competitive Examination among sons of Medical Practitioners under eighteen years of age in ARTS SUBJECTS.	
	Queen's Scholarship.	£10 10s. per annum.	3 years.	Competitive Examination for all Students entering in CHEMISTRY, ELEMENTARY BIOLOGY, and EXPERIMENTAL PHYSICS.	
BRISTOL MEDICAL SCHOOL.	..	£26 15s.	....	Competitive Examination among Medical Students in Subjects of GENERAL EDUCATION.	Perpetual Students.
	..	£10 10s.		Ditto.	
LEEDS SCHOOL OF MEDICINE (YORKSHIRE COLLEGE)	Clark Prize.	£15 15s.	....	Class Work of Third-year Students.	
	Entrance Scholarship	£63.	....	Competitive Examination among Medical Students who have passed Preliminary Scientific Examination at London or Victoria University.	Complete Course of Lectures and Practical Classes at Leeds School.
	Infirmary Scholarship.	£42.	....	Competitive Examination among Students who have passed one of the Preliminary Examinations.	Complete Course of Hospital Practice and Clinical Lectures at Leeds Infirmary.
	Hardwick Prize.	£10.	....	Competitive Examination among Clinical Clerk Students of two years' standing in CLINICAL MEDICINE.	
	McGill Prize.	£10.	....	Competitive Examination among advanced Surgical Students.	
	Thorp Prizes.	£10 and £5.	....	Examinations in Forensic Medicine and Hygiene.	
UNIVERSITY COLLEGE, LIVERPOOL	Holt Tutorial Scholarships (two annually).	£100.	....	Vote of Faculty to Student of not less than two years' standing.	Teaching and Original Research.
	Lyon Jones Scholarship. No. 1.	£21 per annum.	2 years.	Open Competitive Examination among Students in ARTS SUBJECTS.	Perpetual Course at Victoria University.
	„ No. 2.	£21.	....	Competitive Examination among Third-year Students in ANATOMY, PHYSIOLOGY, CHEMISTRY, and MATERIA MEDICA.	
	Derby Exhibition.	£15.	....	Competitive Examination among Third or Fourth year Students in CLINICAL SUBJECTS.	

PUBLIC HEALTH.

INSTRUCTION FOR DIPLOMAS IN STATE MEDICINE.

ENGLAND.

THE following recommendations, designed with a view of ensuring "the possession of a distinctively high proficiency, scientific and practical, in all the branches of study which concern the public health," were adopted by the General Medical Council in 1889. The regulations require that—"(1) A period of not less than twelve months shall elapse between the attainment of a first registrable qualification in Medicine, Surgery and Midwifery and the examination for a diploma in Sanitary Science, Public Health, or State Medicine; (2) every candidate shall have produced evidence of having attended, after obtaining a registrable qualification, during a period of six months, practical instruction in a laboratory approved of by the body granting the qualification; (3) every candidate shall have produced evidence of having for six months practically studied the duties of out-door sanitary work under the medical officer of health of a county or large urban district; (4) the examination shall have been conducted by examiners specially qualified, and shall comprise laboratory work as well as written and oral examination; (5) the rules as to study shall not apply to—(*a*) medical practitioners registered, or entitled to be registered, on or before Jan. 1st, 1890; (*b*) registered medical practitioners who have for a period of three years held the position of medical officer of health to any county, or to any urban district of more than 20,000 inhabitants, or to any entire rural sanitary district."

London University.—Sanitary Science is included in the M.D. degree, and a certificate will have to be produced showing that a course of practical instruction has been attended for the prescribed period, and that the course has included such chemical, microscopical and meteorological work and exercises as more especially relate to sanitation.

Cambridge University.—The Examination consists of two parts. Part I. comprises physics and chemistry; the principles of chemistry and methods of analysis, with especial reference to analyses of air and water; application of the microscope; the laws of heat and the principles of pneumatics, hydrostatics and hydraulics, with especial reference to ventilation, water-supply, drainage; construction of dwellings, disposal of sewage and refuse, and sanitary engineering in general; statistical methods. Part II. comprises laws of the realm relating to public health; origin, propagation, pathology and prevention of epidemic and infectious diseases; effects of overcrowding, vitiated air, impure water, and bad or insufficient food; unhealthy occupations and the diseases to which they give rise; water-supply and drainage in reference to health; distribution of diseases within the United Kingdom, and effects of soil, season, and climate. The examination in both parts is oral and practical, as well as in writing. Candidates may present themselves for either part separately or for both together. Every candidate must pay a fee of £4 4*s.* before admission to *each part* of the examination. Candidates for examination must be in their twenty-fourth year at the time of taking the first part and must have completed that age before presenting themselves for the second part. Those who have become qualified after January 1st, 1890, must have passed a prescribed course of study, particulars of which may be obtained on application to Dr. Bushell Anningson, Barton-road, Cambridge, who is the Secretary to the State Medicine Syndicate.

University of Oxford.—There will be held every year in Michaelmas Term an examination in subjects bearing on Preventive Medicine and Public Health, for the purpose of granting certificates of proficiency therein. No person will be admitted thereto who shall not have obtained the degree of Bachelor of Medicine in the University. The subjects of examination are Hygiene, Sanitary Law, Sanitary Engineering and Vital Statistics. At the close of the examination a list of the candidates who shall have received certificates will be made in a book to be kept for that purpose, and will be certified by the signature of the examiners. Such book will remain in the custody of the registrar of the University. The examination is under the supervision of the Board of the Faculty of Medicine. The fee to be paid before examination is £5; for the Certificate of Proficiency, £10. This examination is suspended during alterations in the Statute. As evidence that the School of Medical Science in Oxford is a growing one, we note the progress made in the new department of Human Anatomy. The building is now nearly completed, and there is every prospect that it will be ready for occupation next summer, the present accommodation being now insufficient to meet the wants of the increasing numbers of students. In the department of Comparative Anatomy a number of large and well-lighted laboratories have been added; these have been fitted up to meet the requirements of senior students and those engaged in research.

University of Durham.—For the licence in Sanitary Science candidates must be registered medical practitioners, and shall have spent one year of professional study subsequently to the attainment of a first registrable qualification in Medicine, Surgery, and Midwifery, in attendance at the University of Durham College of Medicine, Newcastle-upon-Tyne. Medical practitioners registered, or entitled to be registered, on or before Jan. 1st, 1890, are exempt from this year's attendance. For the degree of Bachelor in Hygiene (B. Hy.) the candidate must be a registered medical practitioner; he must not be less than twenty-two years of age, and must have spent one year of professional study subsequently to the attainment of a first registrable qualification in Medicine, Surgery, and Midwifery, in attendance at the University of Durham College of Medicine, Newcastle-upon-Tyne, in the following manner: In the winter session, a course of lectures on Public Health; three months' practical instruction in a Chemical Laboratory; and three months' practical instruction in a Bacteriological Laboratory; and attendance on the Clinical Practice, Lectures, and Instruction at the City Hospital for Infectious Diseases, Newcastle-upon-Tyne. In the summer session a course of Lectures on Sanitary Chemistry and Physics; a course of Practical Chemistry of not less than twelve hours per week; and six months' practical study of out-door sanitary work under the Medical Officer of Health, Newcastle-upon-Tyne. The regulations for the degree of Doctor of Hygiene (D.Hy.) are as follows: The candidate shall be a Bachelor in Hygiene. He shall have been engaged for two years subsequently to the date of his acquirement of the degree of Bachelor in Hygiene in practice as a Medical Officer of Health, and shall write an essay upon some practical hygienic subject, selected by himself and approved by the Lecturer on Public Health, and shall be examined thereon, and upon questions relative to the subject of the essay. Calendars containing full information may be had on application to the Secretary.

Victoria University.—An examination in Sanitary Science is held yearly, beginning about the middle of July, under the following regulations: The examination is in two parts, and is written, oral and practical. Candidates before entering for either part of the examination must have held for not less than twelve months a registrable qualification in Medicine, Surgery and Midwifery, and must present satisfactory certificates of having attended courses of instruction in Public Health and in Chemistry as applied to Public Health in a college of the University, or in a college or medical school recognised for this purpose by the University; of having attended, after obtaining a registrable qualification, during at least six months, practical instruction in a laboratory approved by the University; of having practically studied the duties of out-door sanitary work for not less than six months under the Medical Officer of Health of a county or of a large urban district. Candidates may present themselves for Parts I. and II. separately or at the same time, provided that no candidate be admitted to Part II. unless he has already presented himself for Part I. No candidate's name will be published until he has satisfied the examiners in both parts of the examination. Notice in writing must be given by each candidate to the registrar of the University on or before July 1st in each year. The fee for each part is £4 4*s.*, and must be paid on or before July 5th in each year. For any subsequent examination in the same part the fee will be £2 2*s.* Every candidate who has passed both parts of the examination to the satisfaction of the examiners, and who is legally registered, will receive a diploma in Sanitary Science. The examinations will begin on the third Monday in July each year.

Royal College of Physicians of London and the Royal College of Surgeons of England.—The following are the regulations for obtaining the diploma in Public Health: Section 1: Candidates must be registered under the Medical Act. The examination consists of two parts. The fee for each part is £5 5s. A candidate intending to present himself must give fourteen days' written notice to the Secretary, at the Examination Hall, Thames Embankment, W.C. A candidate registered under the Medical Act on or before Jan. 1st, 1890, will be admissible to Part I. of the examination on producing evidence of being at least twenty-three years of age, and to Part II. on producing evidence of being at least twenty-four years of age. A candidate registered under the Medical Act after Jan. 1st. 1890, will be admissible to examination in Part I. on producing evidence (1) of having been in possession of a registrable qualification in Medicine. Surgery and Midwifery for at least twelve months; (2) of having attended, after obtaining such registrable qualification, practical instruction in a laboratory recognised by the Examining Board in England during a period of six months; (3) of being at least twenty-three years of age. A candidate will be admitted to Part II. of the examination on producing evidence (1) of having, during a period of six months after obtaining a registrable qualification, either practically studied the duties of out-door Sanitary Work under the medical officer of health of a county or large urban district or else held appointment as medical officer of health under conditions not requiring the possession of a specfal Sanitary diploma; (2) of being at least twenty-four years of age.

King's College, London.—A course of lectures will be given in the summer session by Professor Charles Kelly, M.D., F.R.C.P. Practical instruction will be given in the uses of Sanitary Appliances at the Parkes' Museum, Margaret-street, Regent-street, W. The lectures will be given during the summer session on Thursdays at 12.30 P.M., commencing Thursday, May 12th, 1892. Fee for the course, £2 2s., payable in advance in the College Office. Medical students at King's College, free. The necessary Laboratory Instruction to comply with the regulations of the various Universities and other Medical Licensing Bodies will be given by Professor William R. Smith, M.D., D.Sc., and Professor Edgar M. Crookshank, M.B. Lond. The syllabus includes Physics, Chemistry, Microscopy; Parasites and other Organisms Infesting Food-stuff or the Human Body; Bacteriology, including the Cultivation and Recognition of Micro-organisms. The course will last six months, four months of which will be spent in the Laboratories of Public Health, and two months in the Bacteriological Laboratory. Fee 20 guineas, payable in advance in the College Office. Under the direction of Professor William R. Smith, M.D., D.Sc., and Demonstrator, G. N. Huntly, Assoc. R.C.Sc. Lond., practical instruction will be given in the laboratories in the methods of Analysis of Air, Water, Foods &c.; Detection of Poisons. Fees, one month, £4 4s.; three months, £10 10s. The laboratories are also available for original investigations and practical work in Public Health, and are open daily from 9 A.M. to 4 P.M. and on Saturdays to 1 P.M. In Public Health special classes will be held during the winter session by Professor W. R. Smith; fee £12 12s. The bacteriological laboratory is open for original research under the direction of the Professor of Comparative Pathology and Bacteriology. For one month for original research, 3 guineas. For a longer period by arrangement. For one month for private study, with supervision, 4 guineas. For a longer period by arrangement. Practical course for a month, with attendance on lectures, 5 guineas. For a year, 30 guineas. Professor H. G. Seeley, F.R.S., will deliver a course of six lectures on Physiography. For further particulars connected with any of the foregoing classes apply to Professor W. R. Smith, King's College, London.

University College, Bristol.—A course of lectures on the Principles and Practice of Hygiene will be given at the Medical School, Bristol, by D. S. Davies, M.B.Lond., D.P.H. Camb., on Mondays and Fridays, 10-11 A.M., commencing on the first Monday in October. A six months' course of Practical Laboratory Instruction is to be given at the Western Counties' Laboratory, Park-street, by Mr. F. Wallis Stoddart, commencing on the first Wednesday in October, and including the subjects of Chemistry, Physics, Bacteriology and Parasites. Demonstrations on the provisions and practical working of the various Acts relating to Public Health and on the Orders, Circulars and By-laws of the Local Government Board will be delivered by Mr. J. C. Heaven on Mondays and Fridays, commencing on the first Monday in October. Gentlemen taking out the course will be admitted to practical out-door sanitary work during the session, under the supervision of the Medical Officer of Health for the city and port of Bristol. They will be considered as pupil assistants, and will be required to carry out diligently such of the duties of medical officers of health as they may be directed to undertake. Facilities will be afforded during the course for the study of those diseases of the lower animals which are communicable to man. Fee for the entire course, 20 guineas.

SCOTLAND.

Edinburgh University.—Two degrees in Science in the Department of Public Health are conferred by the University of Edinburgh—viz., Bachelor of Science (B.Sc.) and Doctor of Science (D.Sc.). Every candidate who desires to proceed to the first examination for the degree of B.Sc. must produce evidence that he has taken a degree in Medicine in the University of Edinburgh or in a University recognised under Section 1 hereof; and that he has worked for at least six months, or the usual winter session, in a laboratory where practical instruction is given in the methods of investigating subjects pertaining to Public Health. Laboratories are not recognised in which provision is not made for the teaching of Public Health laboratory in accordance with the schedule of laboratory work issued by the Senatus, nor will they be recognised if such work is not taught by a specially recognised teacher. Candidates will not be admitted to the Second Examination for the said degree until one year after taking a degree in Medicine, nor until an interval of at least three months has elapsed after passing the First Examination. Two laboratories are entirely devoted to Public Health work, and the demonstrator teaches in them from 10 A.M. to 4 P.M. daily. The teaching is both individual and by lectures to groups of students. The latter are given twice a week, and deal with the *rationale* of the methods employed in the practical work.

Bachelors of Science in the department of Public Health may, after the lapse of one year, proceed to the degree of Doctor in the same department, on producing evidence that they have been engaged in Practical Sanitation since they took the said degree of Bachelor of Science, and on presenting a Thesis on some subject in the department of Public Health. For the First Examination for the degree of Bachelor the fee is £5 5s., and for the Second Examination £5 5s.; for the degree of Doctor, £5 5s.; fee for registration as a member of the University Council (unless previously registered), £1.

Glasgow University.—The following regulations as to instruction in Public Health and as to examinations for the diploma in Public Health prepared by the Senate have received the sanction of the University Court: the University provides instruction in Public Health by a laboratory training and otherwise. The subjects of instruction are:—Duties of health officer, air and ventilation, food and its adulterations, water and water-supply, sewerage and drainage; construction of hospitals, public buildings and dwellings; overcrowding manufactories, insalubrious trades, cemeteries, nuisances, quarantine, disinfectants and deodorisers, outbreaks of zymotic diseases; climate, topographical and seasonal; its influences in relation to health and disease; geographical distribution of diseases: knowledge of leading Sanitary Acts of Parliament; vital statistics. The laboratory training is provided in a special department of the Chemical Laboratory. Practical instruction is given in the subjects of water, air, soils, antiseptics and disinfectants, foods. The diploma in Public Health may be obtained by any Bachelor of Medicine of the University on his passing the required examination not less than twelve months after he has taken the degree of M.B. Every candidate for a diploma in Public Health shall give sufficient evidence by certificates: that after obtaining the degree of M.B. he has undergone the practical training provided above, and that he has, after obtaining such degree, practically studied for six months the duties of out-door sanitary work under the Medical Officer of Health of a county or large urban district. The examination is written, practical and oral. The fee for the course of instruction is £10 10s. and for the examination £5 5s.

University of Aberdeen.—The diploma in Public Health (D.P.H.) is conferred only on graduates in Medicine of a University in the United Kingdom; and a period of not less than twelve months must elapse between medical graduation and entrance to the examination for the diploma. Every candidate must produce evidence of having attended, after graduation in Medicine, during a period of six months, practical instruction in Hygiene in a laboratory approved of by the University, together with having for a like period after graduation practically and daily studied the duties of out-door sanitary work under the Medical Officer of Health of a county or large urban district, or also of having himself held appointment as Medical Officer of Health. He must also have regularly attended for six months the wards of a general fever hospital containing not less than fifty beds. Every candidate who is not a graduate in Medicine of this University must have attended a course of instruction in the University in one or more of the subjects embraced in the examination for the diploma. The diploma is conferred after an examination in Public Health held in March and July of each year. Candidates desiring to appear for examination at either of these periods must send in their names, with the necessary fee, to the Secretary of the Medical Faculty before the first day of the month in which the examination takes place. The fee for the examination is £5 5*s.* The examination is conducted by specially qualified examiners appointed by the University. Candidates may enter for the whole examination at one period, or they may enter for Parts I. and II. at one period and for Parts III. and IV. at another and subsequent period.

Royal College of Surgeons, Edinburgh.—Every candidate for the examination for the diploma in Public Health must be a registered medical practitioner of at least one year's standing; or be in possession for at least one year of such colonial, Indian, or foreign qualification registrable in terms of the Medical Act, 1886, as may be specially recognised by the College. Attendance of candidates on special courses of lectures and instructions is recommended by the College on all subjects appertaining to the examination for the diploma. But it is imperative on every candidate, after obtaining a registrable qualification, to attend six months' practical instruction in a sanitary science laboratory approved by the College. Every candidate will be required to produce evidence of having for six months practically studied out-door sanitary work under the Medical Officer of Health of a county or large urban district. The rules as to study will not apply to medical practitioners registered on or before Jan. 1st, 1890, nor to registered practitioners who have for a period of three years held the position of Medical Officer of Health to any county or to any urban district of more than 20,000 inhabitants, or to any entire rural sanitary district. The examination consists of a First and Second Examination, and in both cases comprises laboratory work as well as written and oral examinations. The fee for the diploma is £10, of which £5 is payable on entering for the First Examination and £5 on entering for the Second Examination. Candidates may present themselves for both examinations at one period, the condition being that failure to pass in the subjects of the First Examination precludes the candidate from admission to the Second Examination. Every candidate on passing the Second Examination will receive a diploma for Proficiency in Sanitary Science, Public Health and State Medicine, which is registrable on the Medical Register as an additional qualification. NOTE.—This diploma will be superseded after Oct. 1st, 1892, by one to be granted by the Triple Qualification Board, but candidates who have passed the First Examination for the above diploma before that date may be admitted to the Second Examination at a subsequent period.

Faculty of Physicians and Surgeons of Glasgow.—After Sept. 30th, 1892, the separate Examinations conducted by the Royal Colleges of Physicians and Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow, and the three Bodies will conduct their Examinations for the diploma in Public Health conjointly. Candidates other than those registered before 1890 must produce evidence of having subsequently to registration (1) attended six months in a Public Health Laboratory; (2) practically studied for six months the duties of out-door Sanitary work under the Medical Officer of Health of a county or large urban district. The examination is divided into two parts, the first part embracing Chemistry, with laboratory work, physics, and meteorology; the second part epidemiology, endemiology, vital statistics, practical sanitation and sanitary law. The various subjects included in the two examinations are detailed by synopses; and the Acts of Parliament embraced in "Sanitary Law" are also enumerated in a schedule. Candidates may present themselves for both examinations at one period, or for either examination separately. The fee is 10 guineas, one-half payable for each part; on re-entry candidates pay 3 guineas in respect of such part. The examination is held twice yearly in Edinburgh or in Glasgow. Applications for admission in Edinburgh should be made to Mr. James Robertson, solicitor, 1, George-square, Edinburgh; and in Glasgow to Mr. Alexander Duncan, B.A., 242, St. Vincent-street. Either of these gentlemen will furnish candidates with copies of the regulations, and any information necessary.

IRELAND.

Royal University of Ireland.—This University grants a diploma in Sanitary Science. It is conferred only on graduates in Medicine of the University. Candidates are not admitted to this examination until the lapse of twelve months from the time of obtaining the first registrable qualification; they must give notice in writing to the Secretaries of their intention to present themselves and must pay the fee, £2, at least one month previously to the examination. Candidates are required to produce a certificate of having attended a course of instruction in Geology in some recognised institution, as a guarantee that they have rigorously studied the subject; they must also produce a certificate of having, after obtaining a registrable qualification, attended six months' practical instruction in a laboratory approved by the University.

University of Dublin.—The diploma in State Medicine is conferred, after examination, on the following conditions:—The candidate must be a Doctor in Medicine, a graduate in Medicine and Surgery of Dublin, Oxford or Cambridge. The name of the candidate must have been on the Medical Register at least twelve months before the examination. The candidate must have completed, subsequently to registration, six months' practical instruction in a laboratory approved by the University and also have studied practically out-door sanitary work for six months, under an approved officer of health. The subjects of examination will be—(*a*) State Medicine and Hygiene, including causation and prevention of disease, contagion in different diseases, morbid diathesis, congenital diseases and malformations, diseases of animals in relation to the health of man, diseases of the vegetable kingdom, famine diseases, causes of origin and spread of epidemics, principles of bacteriology, quarantine, disinfection &c.; (*b*) Chemistry, including air, water and articles of food and drink, and their chemical and microscopical examination and analysis, the detection of common poisons and recognition of injurious pigments &c.; (*c*) Physics and Meteorology; (*d*) Engineering; (*e*) Morbid Anatomy; (*f*) Vital Statistics; (*g*) Medical Jurisprudence.

Royal College of Physicians and Royal College of Surgeons.—Stated examinations for the diploma in State Medicine are held on the Tuesday, Wednesday and Thursday following the first Friday of the months of February, May and November. A special examination for the diploma can be obtained on payment of £5 5*s.*, in addition to the ordinary fees mentioned below, and on giving notice at least one fortnight before the date of the proposed examination. Every candidate for the diploma in State Medicine must be a registered medical practitioner. He must return his name to the secretary of the committee of management under the conjoint scheme three weeks before the examination, and lodge with him a testimonial of character from a Fellow of either of the Colleges, or of the Royal Colleges of Physicians or Surgeons of London or Edinburgh. The fee for the examination is £10 10*s.* The examination for the diploma in State Medicine comprises the following subjects:—State Medicine and Hygiene, Chemistry, Meteorology and Climatology, Engineering, Morbid Anatomy, Vital Statistics, Medical Jurisprudence, Law.

DENTAL SURGERY.

ANYONE who is on the Medical Register is entitled to practise as a *dentist, although* he cannot register as such without the special licence; but it is of eminent advantage to take the L.D.S., otherwise few dental appointments at general or special hospitals or dispensaries are available, and, what is still more important, the manual dexterity and knowledge of mechanics requisite for the successful practice of dentistry can only be gained by long and careful training at the dental operating chair and in the dental laboratory; and this having been attained, it costs but little trouble to pass the special examination. The subjects beyond those included in the general qualification are—Dental Anatomy and *Physiology (Human and* Comparative), two courses; Dental Surgery, two courses; Dental Mechanics, two courses; Metallurgy, one course; Practice of Dental Surgery at a recognised school, two years, and an apprenticeship in Dental Mechanics to a competent practitioner for three years, but in the case of qualified surgeons two will suffice. The Dental Schools in London are the Dental Hospital of London, the National Dental Hospital and College and Guy's Hospital Dental School, and most of the large provincial towns have new dental hospitals. A convenient arrangement by which the M.R.C.S., L.R.C.P. and L.D.S. can be taken is as follows:—The Preliminary Examination in General Education having been passed, the student should become apprenticed to a qualified dentist and register as a dental and medical student. (This instruction, however, may be taken prior to the date of registration as a dental student.) During his apprenticeship the student should receive instruction in Chemistry, including Chemical Physics, Practical Chemistry, Pharmacy and Materia Medica, and pass in these subjects before entering the hospital. Having entered the hospital, the student should attend the dental and general courses contemporaneously, and pass the Elementary Anatomy Examination at the end of the first winter session, and at the end of the second winter the Second Conjoint Examination in Anatomy and Physiology. At this point a break may be made to admit of the completion of the dental curriculum and the passing of the final examination for the L.D.S. diploma. The student should now devote the rest of his time to the requirements of the Conjoint Board. The regulations for the Dental Licence of the Royal Colleges of Ireland and Edinburgh and of the Faculty of Physicians and Surgeons of Glasgow are very similar to those of the English College. The L.D.S. can also be obtained alone.

REGISTRATION OF. DENTAL STUDENTS.

The registration of dental students is carried on at the Medical Council Office in London in the same manner as the existing registration of medical students, and subject to the same regulations as regards Preliminary Examinations. Students who commenced their professional education by apprenticeship to dentists entitled to be registered, or by attendance upon professional lectures before July 22nd, 1878 (when dental education became compulsory), are not required to produce evidence of having passed a Preliminary Examination. Candidates for a diploma in Dental Surgery must produce certificates of having been engaged during four years in professional studies, and of having received three years' instruction in Mechanical Dentistry from a registered practitioner. One year's *bonâ-fide* apprenticeship with a registered dental practitioner, after being registered as a dental student, may be counted as of the four years of professional study. The three years of instruction in Mechanical Dentistry, or any part of them, may be taken by the dental student either before or after his registration as a student; but no year of such mechanical instruction will be counted as one of the four years of professional study unless taken after registration.

The Royal College of Surgeons of England grants a diploma in Dental Surgery under the following regulations: A candidate must produce certificates: 1. Of registration as a dental student by the General Medical Council, 299, Oxford-street, London, W. 2. Of having been engaged during four years in the acquirement of professional knowledge subsequently to the date of such registration. 3. Of having received instruction in Chemistry, including Chemical Physics, Practical Chemistry and Materia Medica. 4. Of having attended a recognised medical school where he followed (*a*) a course of lectures on Anatomy during not less than six months, or one winter session; (*b*) a course of lectures on Physiology during not less than six months, or one winter session; (*c*) a separate practical course of Physiology during not less than three months; (*d*) a course of lectures on Surgery during not less than six months, or one winter session; (*e*) a course of lectures on Medicine during not less than six months, or one winter session. (Students are required to attend examinations, which are held in the several classes.) 5. Of having performed dissections at a recognised school during not less than twelve months. 6. Of having attended at a recognised hospital or at hospitals in the United Kingdom the practice of Surgery and clinical lectures on Surgery during two winter sessions. 7. Of having attended at a recognised school two courses of lectures upon each of the following subjects: Dental Anatomy and Physiology (Human and Comparative), Dental Surgery, Dental Mechanics and one course of lectures on Metallurgy, by lecturers recognised by this College. Students are required to attend examinations which are held in the several classes. 8. Of having been engaged during a period of not less than three years in acquiring a practical familiarity with the details of Mechanical Dentistry under the instruction of a competent practitioner. In the cases of qualified surgeons evidence of a period of not less than two instead of three years of such instruction will be sufficient. This instruction may be taken prior to the date of registration as a dental student. 9. Of having attended at a recognised dental hospital, or in the dental department of a recognised general hospital, the practice of Dental Surgery during the period of two years. 10. Of being twenty-one years of age. (Professional study prior to the date of registration as a dental student is not recognised except in the case of Chemistry, Practical Chemistry and Materia Medica, and of instruction in the details of Mechanical Dentistry—see Clauses 3 and 8). All candidates who commenced their professional education on or after July 22nd, 1878, must, in addition to the certificates enumerated above, produce a certificate of having, prior to such commencement, been registered as dental students by the General Medical Council. Candidates who are members of the College, or who have passed the examination in Surgery of the Examining Board in England, or who shall produce evidence of having passed the examination in Surgery for the licence of the Royal College of Surgeons of Edinburgh, the Royal College of Surgeons in Ireland, or the Faculty of Physicians and Surgeons of Glasgow, or an examination in Surgery for a degree in Medicine or Surgery at a University in the United Kingdom, will be exempt from re-examination in General Surgery and Pathology. A candidate whose qualifications are found insufficient will be referred back to his studies, and will not be admitted to re-examination within the period of six months unless the Board shall otherwise determine. The fee for the diploma is £10 10*s*., not inclusive of any stamp duty.

Royal College of Surgeons, Edinburgh.—For the licence in Dental Surgery all candidates must pass a preliminary examination in general knowledge and have their names inscribed in the Register of Dental Students of the General Medical Council. A copy of regulations, giving a list of preliminary examinations recognised for obtaining this licence, as well as of the subjects of the professional examinations, may be obtained from Mr. James Robertson, Clerk to the Royal College of Surgeons, at 1, George-square, Edinburgh. Students who commenced their professional education by apprenticeship or attendance on lectures before July 22nd, 1878, are exempt from the preliminary examinations. Candidates must produce certificates of having, subsequently to the date of registration, been engaged for four years in professional studies, and of three years' instruction in Mechanical Dentistry from a registered dental practitioner, except in the case of previously registered medical practitioners, when two years will be considered sufficient. 1. Candidates who have commenced their studies *prior* to Oct. 1st, 1890, must have attended the following curriculum: Anatomy, one winter course; Practical Anatomy and Demonstrations, nine months; Practical Anatomy, nine months; Anatomy of Head and Neck, one course of twenty lectures; Physiology, one course of not less than fifty lectures; Chemistry, one winter course; Surgery, one winter course; Medicine, one winter course; Materia Medica, one course of three months; Practical Chemistry and Metallurgy, one course of three months; attendance on the practice of Surgery and Clinical Lectures on Surgery, at a recognised hospital, one course of six months, or two courses of three months. 2. Candidates commencing their studies *after* Oct. 1st, 1890, must have attended the following curriculum: Anatomy, one course of six months; Practical Anatomy, twelve months; Chemistry, one course of six months; Practical Chemistry, one course of three months; Physiology, one course of six months; Materia Medica, one course of three months; Surgery, one course of six months; Medicine, one course of six months; attendance on the practice of Surgery, and Clinical Lectures on Surgery, at a recognised hospital, six months. These courses must have been attended at a University, or in an established school of medicine, or in a provincial school specially recognised by the College as qualifying for the diploma in Surgery. In addition to these courses candidates will be required to have attended in a recognised dental hospital, or with teachers recognised by the College, the following special courses of lectures and instruction: Dental Anatomy and Physiology (Human and Comparative), Dental, Surgery and Pathology, Dental Mechanics—one course each; two years' attendance at a dental hospital, or the dental department of a general hospital, recognised by the College. Certificates of attendance on such of these courses of the new curriculum as may be respectively required will entitle candidates to appear either for the first dental examination, or for the first and second examinations for the triple qualification as they may select, and subject to the existing regulations for each qualification. Candidates who have passed the first and second examinations for the triple qualification will be exempt from the first dental examination, and will have the advantage of being admissible either to the Final Dental Examination or to the Final Examination for the Triple Qualification, or to both. But the First Dental Examination will not be held as equivalent to the first and second Triple Examinations, and will admit to the Final Dental Examination only. Candidates who are Licentiates of this College, or who may be registered medical practitioners, will be required to produce certificates of attendance on the special subjects only, and will be examined in these only for the Dental diploma. First Professional Examination: The candidate must have attended the courses on Anatomy, Chemistry and Physiology. The examination embraces Anatomy, Chemistry and Physiology. The fee is £4 4*s.* Second Examination: The candidate must have attended the remaining courses of the curriculum, must be twenty-one years of age, and must pay a fee of £6 6*s.* The examination embraces Surgery, Medicine, Therapeutics and the special subjects of Dental Anatomy and Physiology, Dental Surgery and Pathology and Dental Mechanics. Unsuccessful candidates will be repaid £2 2*s.* in the First and £3 3*s.* in the Second Examinations. Candidates who claim exemption from the First Dental Examination, on the ground of having passed the First and Second Triple Qualification Examination, will, before being admitted to the Second Dental Examination, be required to pay the total fee of £10 10*s.*, payable for the Dental diploma, of which £3 3*s.* will be returned in case of rejection.

Faculty of Physicians and Surgeons of Glasgow.—The regulations as to certificates, curriculum, number and subjects of examinations, fees &c. are in effect similar to those of the Royal College of Surgeons of Edinburgh. Special provision is made for candidates who intend to qualify both in Medicine and in Dentistry. There is an examination in Practical Dentistry conducted in a dental hospital.

Royal College of Surgeons in Ireland.—All information concerning the licence in Dentistry may be obtained from the Registrar of the College, who will receive the applications of candidates for permission to be examined. The bank receipt for fees, together with all certificates &c., are to be lodged at least fourteen days prior to the day fixed for the commencement of the examination for the class to which each candidate belongs. The examinations commence on the second Monday in the months of February, May and November. Candidates are required to pass three examinations—viz., Preliminary, Primary and Final. 1. Preliminary Examination and Registration. 2. Primary Dental Examination, the fee for which is £10 10*s.*, and the subjects are: (*a*) Physics; (*b*) Chemistry; (*c*) Anatomy; (*d*) Histology and Physiology. 3. Final Examination. Candidates must produce evidence of having passed the former two examinations and of having attended courses of Dental Surgery and Pathology, Dental Mechanics, Dental Anatomy, Dental Metallurgy and Surgery; of having attended for two years the practice of a dental hospital recognised by the College, or of the dental department of a general hospital so recognised; of having, subsequently to passing the *Primary Dental (or an equivalent)* Examination, attended for a period of nine months as an extern, or six months as an intern, pupil the practice of a recognised medico-chirurgical hospital; of having been engaged for at least forty-five months in acquiring a knowledge of dentistry. The candidate is recommended to devote at least three years to acquiring a practical knowledge of Dentistry under the instruction of a registered dentist. Candidates holding a diploma in Surgery are only required to produce certificates of one year's attendance at a dental hospital and are not required to produce certificate in Dental Anatomy and Physiology. As this remission has been made on the understanding that the surgeon devotes his whole time to dental work, such attendance must be taken out after the date of his diploma in Surgery. The examination fee is £10 10*s.*

TEACHING INSTITUTIONS IN ENGLAND.

Dental Hospital of London and School of Dental Surgery, Leicester-square.—The school was founded to provide the special dental education required by the Royal College of Surgeons for the licence in Dental Surgery. The general part of the curriculum may be taken at any general hospital. The hospital is open from 9 A.M. to 4 P.M., there being one staff for the morning and another for the afternoon of each day. There is a good mechanical laboratory, under Mr. A. J. Watts, and opportunity is afforded students of gaining practical experience in taking models and fitting dentures into the mouth. The demonstrators at the commencement of each session give a course of lectures on Operative Dental Surgery. The five house surgeoncies are held for six months each, and are open to all qualified students. The lecturers, in addition to their lectures, give special demonstrations on the Microscopy of Dental Anatomy and Dental Surgery. The lecturer on Dental Mechanics also gives practical demonstrations in the mechanical laboratory. A scholarship of the value of £20 has been founded by Sir Edwin Saunders and will be awarded to the student who has obtained the highest aggregate number of marks in the five class examinations—viz., the four Lecturers' Prizes, the Operating Prize—and in additional special *vivâ-voce* examinations in Practical Dentistry. Prizes and certificates are awarded by the lecturers for the best examinations in the subjects of their respective courses, at the end of the summer and winter sessions. Arrangements have been made for a prize in Operative Dentistry. A prize of the value of 5 guineas is given by Messrs. Ash and Sons for the best essay on some surgical subject connected with Dental Surgery. The conditions under which this prize is to be competed for are the same as those for the Saunders Scholarship, with this exception, that the papers are to be written in the hospital during the summer session. Consulting Physician: Sir Richard Quain, Bart. Consulting Surgeon: Mr. C. Heath. Consulting Dental Surgeons: Mr. T. Arnold Rogers and Sir John Tomes. Dental Surgeons: Monday, 9 A.M., Mr. C. E. Truman; Tuesday, 9 A.M., Mr. R. H. Woodhouse; Wednesday, 9 A.M., Mr. G. Gregson; Thursday, 9 A.M., Mr. Storer Bennett; Friday, 9 A.M., Mr. W. Hern; Saturday, 9 A.M., Mr. Leonard Matheson. Assistant Dental Surgeons: Monday, 9 A.M., Mr. J. F. Colyer; Tuesday, 9 A.M., Mr. C. F. Rilot; Wednesday, 9 A.M., Mr. E. Lloyd Williams; Thursday, 9 A.M., Mr. W. B. Paterson; Friday, 9 A.M., Mr. H. Baldwin; Saturday, 9 A.M., Mr. H. Lloyd Williams. For the afternoons—Monday, Mr. A. Clayton Woodhouse; Tuesday, Mr. W. H. Dolamore; Wednesday, Mr. F. J. Bennett; Thursday, Mr. W. H. Woodruff; Friday, Mr. C. Robbins; Demonstrators of Gold and other Methods of Filling: Mr. Arthur Colyer, Mr. E. H. L. Briault, Mr. G. Hern, and Mr. E. Gardner. Medical Tutor: Mr. W. H. Dolamore. Lecturers: Dental Surgery and Pathology — Mr. Storer Bennett. Dental Anatomy and Pathology (Human and Comparative)—Mr. Arthur Underwood. Mechanical Dentistry—Mr. David Hepburn. Metallurgy in its application to Dental Purposes—Professor A. K. Huntington (King's College, London). Total fee as a perpetual student, £36 15*s.*, to be paid in one sum. Composition fee for the Special Lectures and two years' Hospital Practice required by the curriculum, £31 10*s.* All fees are payable on day of entry. An extra fee of £10 10*s.* for Hospital Practice makes a student "perpetual" for that course when paid at any period after original entry. The Dean, Mr. Morton Smale, attends at the hospital every Wednesday morning from 10 to 12, and daily from 5 P.M. to 6 P.M. from Sept. 26th to Oct. 30th, and from April 29th to May 28th, or he can be seen by appointment. Letters to be addressed—40, Leicester-square, "to be forwarded."

National Dental Hospital and College.—Consulting Physicians: Dr. B. W. Richardson and Dr. W. H. Broadbent. Consulting Surgeons: Sir Spencer Wells and Mr. Christopher Heath. Consulting Dental Surgeon: Sir Edwin Saunders. Honorary Visiting Physician: Dr. James Maughan. Honorary Visiting Surgeon: Mr. E. W. Roughton. Dental Surgeons: Mr. F. H. Weiss, Mr. A. Smith, Mr. M. Davis, Mr. A. F. Canton, Mr. H. G. Read and Mr. W. R. Humby. Assistant Dental Surgeons: Mr. W. Weiss, Mr. P. H. White, Mr. S. Spokes, Mr. T. G. Read, Mr. C. W. Glassington and Mr. Rushton. Lecturers (winter), Dental Anatomy and Physiology: Mr. Sidney Spokes, Tuesdays and Thursdays, 6 P.M., in October, November and December. Operative Dental Surgery and Therapeutics: Dr. George Cunningham, Mondays, 6.30 P.M., in October, November and December. Dental Materia Medica and Therapeutics: Mr. C. W. Glassington, Tuesdays, 7.30 P.M., in October, November and December. Dental Metallurgy: Mr. W. Lapraik, Tuesdays, 7.30 P.M., in January, February and March. Dental Mechanics: Mr. H. Rose, Mondays, 7 P.M., in January, February and March. Demonstrations in Dental Mechanics: Mr. Humby, Wednesdays, 7 P.M., in January, February and March (in 1839 and alternate years). Summer—Dental Surgery and Pathology: Mr. W. Weiss, Mondays and Thursdays, 6 P.M., in May, June and July. Elements of Histology: Dr. J. Maughan, Mondays and Thursdays, 5 P.M., May, June and July. Clinical Lectures and Demonstrations are given from time to time. The stopping rooms have accommodation for

Dentist: Dr. John Smith. Dental Surgeons: Messrs. W. Bowman Macleod, Andrew Wilson, Malcolm Macgregor, George W. Watson, J. S. Durward, James Mackintosh and W. Forrester. Assistant Dental Surgeons: Messrs. John S. Amoore, J. Graham Munro, T. Gregory, John Turner, David Monroe and F. Page. Extra Assistants: Messrs. Sewill Simmons and R. Nasmyth Hannah. Tutorial Dental Surgeon: Mr. Frederick H. Turnbull. Dean: Mr. William Bowman Macleod, 16, George-square.

Dental Hospital and School, Glasgow.—The summer session was opened on Tuesday, May 1st, 1892, and the lectures are delivered as under:—Dental Surgery and Pathology, on Tuesdays and Thursdays, at 8 A.M. Mr. Rees Price, lecturer. Dental Anatomy and Physiology, on Wednesdays and Saturdays, at 8 A.M. Dr. Wm. Wallace, M.A., M.B., L.D.S., lecturer. The winter session opens on Nov. 6th, 1892, and the lectures will be delivered as under:—Dental Mechanics, on Tuesday evenings at 7 P.M., beginning Nov. 6th. Mr. John A. Biggs, lecturer. Fee for each of the above courses of lectures, £3 3*s*. The lectures on Dental Anatomy and Dental Surgery are arranged to extend over two summer sessions, as required by the English College, thus enabling students to present themselves for examination at any of the four Licensing Boards. The fees for attendance at the Dental Hospital and lectures amount in all to £25 4*s*., and may be paid separately, but by a payment of £15 15*s*. on entering, and £7 7*s*. at the beginning of the second year, a saving of £2 2*s*. is effected. Intending students before commencing to attend the lectures or hospital practice must produce evidence of having passed the preliminary examination prescribed by the regulations of the General Medical Council for registration of dental students. Dean: Mr. J. Rankin Brownlie. Secretary: D. M. Alexander, 117, Wellington-street, Glasgow. The hospital is open daily from 5 to 7 P.M. (Saturdays excepted); Saturdays from 9 to 11 A.M. Students may enrol at any time, their period of attendance counting from date of entry. The fee for the two years' attendance required by the curriculum is £15 15*s*.

Glasgow Royal Infirmary (Dental Department).—Mr. W. H. Gray attends at the Royal Infirmary at 3 P.M. on Mondays, Wednesdays and Saturdays, and gives a course of Dental Surgery on these days in summer. The following course in the curriculum can be taken at St. Mungo's College: Anatomy, six months; Practical Anatomy, nine months; Physiology, six months; Chemistry, six months; Practical Chemistry with Metallurgy, three months; Surgery, six months; Medicine, six months; Materia Medica, three months; Clinical Surgery, six months; Dental Surgery, six months, and attendance for two years on the dental department of the hospital. The attendance on the Dental Clinic is free to students of the hospital; to dental students, one year, £5 5*s*.; perpetual, £10 10*s*.

PUBLIC MEDICAL SERVICES.

THE INDIAN MEDICAL SERVICE.

IN our annual summary of the regulations for the various public medical services we have drawn attention to the rank and titles, promotion, Indian pay and allowances of officers while serving in the military department of the Indian Medical Service. The following information will, we trust, be found useful to those who are thinking of embarking on an Indian career. For the Indian Service all natural-born subjects of Her Majesty between twenty-one and twenty-eight years of age at the date of the examination, and of sound bodily health, may be candidates. No candidate is permitted to compete for a commission more than twice. Candidates may be married or unmarried. They must possess a diploma entitling them under the Medical Acts to practise both Medicine and Surgery. The physical fitness of each candidate is determined previously to examination by a board of medical officers, who are required to certify that vision is sufficiently good to enable him to perform any surgical operation without the aid of glasses. After being passed by the Medical Board and paying a fee of £1, a candidate is examined in the following compulsory subjects, in which the highest number of marks attainable is as follows:—Anatomy and Physiology, 1000; Surgery, 1000; Medicine, including Therapeutics and the Diseases of Women and Children, 1000; Chemistry and Pharmacy, and a practical knowledge of Drugs, 1000. No candidate is considered eligible who does not score at least one-third of the marks obtainable in each of the compulsory subjects. Candidates may be examin in the following voluntary subjects, for which the maximu number of marks obtainable is as follows: French, Ger and Hindustani (150 each), 450; Natural Sciences, 30 The natural sciences include comparative anatomy, zoolo natural philosophy, physical geography and botany, wi special reference to materia medica: the questions on the subjects are of a very elementary nature. A number le than one-third of the marks obtainable in any of the voluntary subjects will not be allowed to count in favo of a candidate who has qualified in the compuls subjects. The examinations in Surgery and Medicine a in part practical, and include operations on the de body, the application of surgical apparatus, and the ex mination of surgical and medical patients. There are usual two examinations held in each year; the examinations ta place a few weeks before the commencement of the Netl terms. Before joining the successful candidates are requir to provide themselves with the regulation undress unifor of a Surgeon-Lieutenant of the British service, but witho the sword. At Netley young officers are called Surgeons-o Probation or Candidates.

At Netley there are two courses of instruction held yearly, the winter one, which commences in October, and the summ course, beginning in April. Each course lasts about fo months. Probationers are required to attend one enti course. It is better, if possible, to go up for the examin tion preceding the summer course, as an officer then lands India at the commencement of the cold season. During t period of residence at the Army Medical School a candida receives an allowance of 8*s*. a day, with quarters, fuel an light, an allowance quite sufficient to enable a careful man pay his way. At the conclusion of the course candidates a required to pass an examination in the subjects taught in t school. The position of the candidates in the pass-list determined by the combined results of the London an Netley examinations, and, so far as the requirements of t service permit, each officer has choice of Presidency in Ind according to his position. At Netley the prizes are equal open to the competition of the candidates for the Medic Staff and Indian Medical Service. A Surgeon-Lieutenan commission dates from the day of passing out of the Netl School.

The Indian Medical Service is divided into three disti branches, one for each of the Presidencies. Bengal offers t widest field, and better fees are obtained there than in ot parts of India, hence the men at the top of the pass-l usually select it.

From the date of leaving Netley until arrival in India t rate of pay is 10*s*. a day. After a few weeks of leave passa to India is usually arranged on a troopship.

On arrival in Bombay the Bengal officers are ordered Allahabad, the Madras men to their Presidency town, wh the Bombay officers are either kept in Bombay or ordered proceed to Poona. The "lower standard" examination Hindustani should be worked for and passed as soon possible after arrival in India, as no pay other than th described as "Indian pay and allowances" can be draw until the certificate is obtained.

In each Presidency the Indian Medical Service is pra tically divided into two departments, military and civil.

The scale of pay shown in our summary applies to office not holding appointments in the military or civil departme of the Service—that is to say, to officers on general duty w have no specific charges; such pay is seldom drawn for a length of time except on first arrival in India.

The Military Department of the Service.—Every offic appointed to the Service is obliged to serve in the army of t Presidency for at least two years, unless special necess arises in the Civil Department for the curtailment of milita service. The first few weeks of Indian Military Service a usually passed at a Station Hospital, doing duty with Engli troops. After a short time officers are appointed to nati regiments, either as extra medical officers or to the officiati medical charges. Regimental medical work is, as a rule, ve light. It consists in morning and evening visits to hospi the attendance on brother officers and their families at th bungalows, and on native officers in the huts when serious ill; the examination of recruits; the attendance at occasion parades and field-days; in sitting as a member on medical other boards; attending at mess and other regimental me ings; and in looking after the sanitary condition of th "Lines." Regimental appointments are held by officers fro the rank of Surgeon-Lieutenant to that of Brigade-Surgeo

of all officers lent to the Civil Department are replaced at the disposal of the military authorities. The following are the rates of retiring pensions and half-pay at present offered: Pensions, after thirty years' service for pension, £700 per annum; after twenty-five years, £500 per annum; after twenty years, £365 per annum; after seventeen years, £292 per annum. Rates of half-pay for a Brigade-Surgeon-Lieutenant-Colonel and Surgeon-Lieutenant-Colonel, 11*s.* a day; for a Surgeon-Major, 9*s.* 6*d.* a day; for a Surgeon-Captain, 7*s.* a day; and for a Surgeon-Lieutenant, 3*s.* a day. Officers admitted to the Service will, after retirement on pension before completing thirty years' service, be liable to recall to military duty in case of any great emergency arising, up to fifty-five years of age.

Wound and Family Pensions.—Medical officers are entitled to the same allowances on account of wounds as other officers holding the corresponding military rank. Pensions to widows, varying from £120 to £50 a year, and compassionate allowances to children, varying from £20 to £12, are granted in cases where officers die before retirement. In addition to these pensions and compassionate allowances, every officer of the Indian Medical Service is obliged to subscribe to the Indian Service Family Pension Fund. From this fund pensions to widows are granted, varying, according to the rank of the deceased officer, from £160 to £40 a year, and to children, according to age, from £10 to £30 a year; the pensions for boys cease at the age of twenty-one; while the £30 pension for a daughter rises to £45 on attaining the age of twenty-one years and continues during life or until marriage.

Officers of the Service are eligible for the military distinction of the Bath and for good-service pensions. As a rule "the Bath" is only given to men who remain in military employment. The Knighthoods and Companionships of the Star of India and of the Indian Empire are given to officers of the Civil Department. The Order of St. Michael and St. George is occasionally given to officers when sent on duty beyond the Indian frontier. The Victoria Cross and the Distinguished Service Order can also be won by members of the Service. Six of the most meritorious officers are named Honorary Physicians and six are named Honorary Surgeons to Her Majesty.

THE COST OF MEDICAL EDUCATION.

IT is very desirable that the parents and guardians of youths who contemplate entering upon a course of medical study should have the means of ascertaining with some precision the whole cost which will have to be incurred in the educational process. It is obvious that this cost is by no means covered by the tabulated fees which appear in our pages to-day. Indeed, these fees do not comprise the whole expense of medical education in the narrowest and most direct sense of the word, since there are incidental expenses for books, instruments, and the like, which cannot be avoided by the student. Over and above this there is the additional cost, by no means inconsiderable in an ordinary case, of maintaining him away from home during his career of studentship. A general impression upon these matters might, no doubt, be attained without much trouble by any person of intelligence, but such general impressions do not fully meet the case. For one thing, there is an appreciable difference in respect of these incidental expenses between localities. It will often be a matter of consideration whether a lad should be consigned to one centre of education or to another, and in such a case the question of relative expense may well enter into the discussion.

With the view of elucidating this matter the Editors of THE LANCET issued last year a circular to medical students from which a body of most useful information bearing upon this point was obtained. The results have been already made public; but, as they are of more than fugitive interest, we reproduce to-day the main substance of our article founded upon the replies to this circular and published in our Students' Number of last year. The figures given below represent annual expenditure, and as the student's curriculum covers a period of five years, it will be understood that the provision to be made for his maintenance will be proportionate to this space of time.

The returns by the light of which we are writing are sufficiently numerous to yield averages, and it is easy to see that the average man spends more money in the metropolitan centres than in the provinces, and that the standard of living and the cost of maintaining a given standard both vary from place to place. The most complete statement that we hav received comes from a student at the Leeds school, wher great economy in the matter of personal expenses appears t prevail. This return slightly generalised may serve as a typ The student in question finds it necessary to occupy the on room which serves his purposes during ten months of th year, for which the—

	£	*s.*	*d.*
Rent, including attendance, amounts to ...	13	0	0
Food for the same period	15	0	0
Clothes (as to which item he seems to enjoy some advantage)	3	10	0
Washing &c....	2	0	0
Stationery and incidental expenses...	4	0	0
Examination expenses	7	0	0
Recreation	15	0	0
Books &c.	4	0	0
Unaccounted for...	1	10	0
Total	65	0	0

This case is exceptional in more respects than on although it is by no means unique save in respect of th fulness with which details are given. It is not, however, i many instances that such a high standard of economy ca be attained. A few words upon the various items enumerate will make this clear.

The cost of rent is here exceptionally light, and th naturally enough is a charge which varies greatly with th locality. One student who occupies rooms in a ve desirable suburb of London pays £2 a week for this ite alone, but his case is more exceptional in the opposit direction than that of the Leeds man quoted above. I the matter of rent private lodgings in London are not o an average more costly than in most provincial towns, an rule—as the merchants say—at about 15*s.* a week. Ou returns show that they vary from 9*s.* to the maximum o 40*s.* already mentioned.

Referring to other centres, the rent of lodgings in Edi burgh is probably slightly less than in London; in Dubli about the same as in the English metropolis. In Edinburg there is a sort of residential club known as University Hal which affords facilities of social intercourse and mutu aid, as, for example, in the lending of books, which practised systematically among the resident students. I addition to these amenities, the institution secures the lodgings at a very moderate monthly rent. Glasgow lodgin again run at about the same level, while in Birmingham th average of our returns is cheaper still, not exceeding 11*s.* week. The cheapest district of which we have any fu information is Aberdeen, where both in the matter of re and of food our correspondents speak of an economy that altogether exceptional, and indeed in one instance reaches th extreme limit for rent of 3*s.* 6*d.* a week in summer and 4*s.* 6 in winter, the additional shilling representing the cost fuel to cope with the Scottish winter. It should, however, added that in this case our correspondent shares rooms wi another student, thus minimising their cost. One of our co respondents from this town confesses to living in better sty and more expensively than the majority of the students at cost for rent not exceeding 14*s.* a week; and another, wh illustrates in his own case the system of sharing room says that under that system "a student can live in Aberde well and comfortably for the small sum of 12*s.* a week;" an he proceeds to avouch cases in which men have lived an fared well at an inclusive charge for board, lodging, coal and gas of 10*s.* a week. In towns like Cork and Leeds th average rises above this limit, but probably 15*s.* a week here almost a maximum charge. In the Irish provinc towns particularly the rent of rooms is very low, 5*s.* and being by no means below the average. A somewhat hig rent is asked, but still ranging about 10*s.* a week, in Engl provincial towns, such as Stockton, or Rugby, or Dev port; but residence in these involves constant rail travelling, and would hardly be adopted for the purpos a student's career, unless some special considerations in enced the decision with which fine questions of comparat expense would not come into competition.

There remains to be mentioned the lodging accommodati afforded by residential colleges, hospitals, and the li institutions. But concerning these a word may suffice. T advantages of residence in a college are manifold, but th are chiefly of the intellectual and social kind. The cost not less than that of private lodgings thriftily selecte There may also be in some instances impatience on t part of the student of the control imposed by the regulations which are necessarily devised for the orderly conduct of such institutions. Nevertheless, the select society, and even the inevitable restraint, of such institutions are of great value, especially to young students who have reason to dread nothing more than solitude and an irresponsible control of any considerable proportion of their own time. On the other hand the cost of board and lodging in such institutions is not greater than the average cost of the same accommodation in private lodgings in their neighbourhood. The following is a list of London schools for medical students, complete so far as the Editors have been able to make it, which have residential colleges attached:—St. Bartholomew's Hospital, Guy's Hospital, King's College, St. Mary's Hospital and Middlesex Hospital.

At many schools a register is kept of suitable lodgings which can be recommended to students. It is known that such registers are kept at the following schools, but it is feared that the list is imperfect:—London Hospital, St. Thomas's Hospital, Westminster Hospital, Aberdeen University, Anderson's College, Glasgow, and the Catholic University, Dublin.

A very excellent plan, and one that involves no inordinate expense, is to place a student in the house of a medical practitioner in the neighbourhood of the school which he is attending. It will be found that when the educational facilities thus placed in his way are taken into account, in addition to the mere commercial value of his board and lodging, the arrangement is usually a very economical one. The opportunities for doing this are, of course, not unlimited, but they are sufficiently numerous to merit mention here.

Passing to the next item in our typical account, that of food, we may observe that here again our Leeds correspondent has set a standard which will be rarely attainable. It can be paralleled in a very few instances only from our returns. The cost of board is generally not less than that of lodging, and may fairly be taken at about the same figure. As a matter of fact, the similarity is closer than would be at first supposed, and, speaking broadly, it may be said that where the one item is low the other is low also. It would seem as if the prevalence of high prices or of low prices, as the case may be, affects both items, and affects them equally. It will then be more proper in an ordinary case to put this item down at £30 a year than at £15. The remaining items in the statement may be accepted without much comment, except perhaps that which is entered under the head of dress. This is an item of expenditure not properly chargeable to the education account, since the student would in any case be clothed, and the amount expended upon his wardrobe will be determined by his personal habits, and in no way by his professional studies.

It is very undesirable, and a matter to which more than one of our correspondents has referred in a tone of irritation, that the incidental expenses should be overlooked. We have already alluded to them above, but it seems not unimportant, for the purpose of preventing misunderstanding, to refer pointedly and specifically to them here. The composition fee which is published by the various schools, and which is in a sense a comprehensive charge, may easily be supposed to be more comprehensive than it is. A glance at our tables will show exactly how it is arrived at and what it covers. Broadly it may be said to include all the educational fees. But it does not include books—this is a matter of course. Equally it does not include instruments, and these two items together cannot be fairly written down at less than £8 a year in an ordinary case. Many circumstances may occur to falsify this estimate. A successful student may largely supply himself with books by prize money, or access to a suitable library may minimise his personal requirements in this respect. With instruments, [illegible] for dissection, and the like, the case is somewhat different, and the expenditure under these heads can only be curtailed at the expense of the student's education. A niggard hand in such matters makes therefore a grievous mistake, and this should be clearly appreciated at first, because the temptation to undue parsimony will be felt by a [illegible] mind in their bestowment. Another item which is for very good reason omitted from the composition payment is the charge for examination fees. The reason of this will be at once apparent if it is only considered that the teaching bodies and the examining bodies are distinct, and that whereas the composition fee represents a payment to the teaching institutions of the former class, the examination fees are payable by institutions exercising the examining function. It will be hard to quarrel with an arrangement which is justified by the importance of paying the fee to the right person. Less obvious, but of the same kind, is the explanation of the circumstance that tutorial fees are not included in the composition. Many students pass through their curriculum by the aid of lectures and professorial instruction only. This is very possible when only crucial examinations are attempted. But for competitive examinations additional instruction is generally an indispensable preparatory. Such additional instruction must of course be paid for, but its occasional character prohibits its inclusion with the indispensable items in the comprehensive payment. From what has last been said it will be perceived that the cost of the professional course, especially in these latter items, will be largely affected by the nature of the qualifications upon which the student sets his mind. A list of examination fees appears on page 541, from which a sufficiently precise estimate may be formed of the amount which it will be necessary to expend in this direction. It will, of course, be borne in mind that failure to pass an examination at the first sitting may involve the payment of a second fee upon a subsequent occasion. In forming an estimate of prospective expenditure this contingency should not be overlooked.

NOTES AND NOTE-TAKERS.

"IF a man write little," says Lord Bacon in one of his best known Essays, "he need have a great memory." The passage refers to the habit of taking down notes of what is observed or read—a habit which all students, but more especially the medical student, cannot too assiduously cultivate. The power of taking notes efficiently does not come by nature, as many suppose, but is an art which improves with cultivation, and through which some of the highest qualities necessary to a successful medical career are developed. We are not now referring to the expert note-taker who has devoted years of hard study and long practice to the acquirement of the degree of skill which is necessary for the practice of his vocation, but to the student note-taker who takes notes of lectures for the guidance of his own study and as an aid to his memory. Indeed, it is very questionable if the student note-taker would gain much by attempting a *verbatim* note, or whether a good deal of the educational value of the note would not be lost in the effort. The educational value of note-taking depends on the habits which it develops. One of these, in a very marked degree, is the habit of punctuality. The professional note-taker is rarely late for his engagements, and so the student note-taker will not care to lose the connexion between one lecture and another on a subject in which the lecturer has interested him. He is rarely absent from his class, and the habit of regularity is thus markedly developed. A lost lecture or two leaves a hiatus in his note-book which costs much reading and research among complicated text-books to fill up. As a rule, it will be found that students attend to whatever is worth hearing; but the student who has developed a habit of note-taking is never caught napping in his class or furtively perusing newspapers. The attention which is necessary to careful note-taking has become habitual with him. He has developed the habit of continuous attention, one which a student qualifying himself for any career in life will find most valuable. Thoroughness is another attribute which note-taking tends to foster. Points are noted in the class-room and at the clinical lecture which after-study will expand, and which in many instances give the keynote to future research. These are the main qualities which go to make a successful practitioner; and, if proof were wanted, the success of those medical men who have cultivated this habit will afford it. It would of course be invidious to specify them by name, but probably half a dozen of the most successful medical men in London, taken at random, would be found to be excellent note-takers, from habits acquired in their career as students.

The student's note-book reflects the character, not only of the lecturer, but of the teacher. Diffuseness in a lecturer is a common and sometimes fatal cause of discouragement to the student at the outset of his career. The young note-taker finds it impossible to lay hold of any definite statement. We have known lecturers on subjects in the medical curriculum who seemed to think they fulfilled their mission as teachers of students by muttering in a low tone of voice from manuscript at the rate of 250 words per minute. Such a travesty of teaching inspires in the student undisguised contempt. The matter is not assimilated if it is even heard or listened to by the student. An expert note-taker would probably despair of learning anything from such perfunctory instruction.

Again, notes to be of service to the student must be spontaneous and must be taken *con amore*. If full benefit is to be obtained the note-taking must be inspired by the lecturer and by the nature of the instruction. The principal objects of note-taking are defeated by compulsion, or by bribery in the form of prizes offered for the best note-books. The process in this case becomes mechanical and loses its educational value. Perhaps the most useless of all kinds of notes are those which are dictated to the students by the lecturer. Notes to be useful must be made with brains, and the brains must be supplied by the students.

Note-taking has a stimulating effect on the teacher, and it would be exceedingly useful to lecturers to take an occasional glance through the note-books of their students. The results would confirm the excellences of the lecturer and improve his deficiencies. It is said that students do not care to use notes and so do not trouble about acquiring the art of taking them. Students are the best judges of the value of note-books.

Some teachers, of whom Professor Struthers, who has done so much in the interests of medical students, may be taken as the type, object to note-taking. Addressing the General Medical Council on one occasion, he said: "The student takes his notes, puts his book in his pocket, and walks out, knowing no more about the subject than a mere reporter would do." If the student knows at the end of the lecture as much as the experienced reporter would do after listening to it, he would have reason to congratulate himself on the success of diligent note-taking. The very habit which the reporter has acquired at so much pains gives him the power, which was so highly developed in Lord Macaulay, of recalling the points of a long lecture, and of being able in many instances to quote without reference to his note-book the exact words of the lecturer, and to remember them. There are many who believe that lectures and note-taking alike are merely so much useless expenditure of time and energy. "The information," it is said, "can be better got out of a text-book." We prefer Professor Gairdner's view, who in a lecture so long ago as 1877 said: "The text-book must be rewritten or completely revised, edition after edition, or it must perish. Professors' lectures must be freshly brought up, altered, amended, often completely remodelled, almost from year to year, or they are naught." "Systematic lectures, which are mere repetitions of a text-book, are not indeed wholly useless, but they can never rise above the usefulness of the text-book, any more than water can rise above its fountain-head. But systematic lectures that are informed by the spirit of a living man are valuable to you above a text-book, just in proportion as you have reason to have a living faith in that man and in his ability to guide you aright." It is the living voice of the teacher that makes all the difference from the lifeless page. Medical students cannot afford to neglect any of the aids which render their task lighter or their knowledge more accurate in the wide domain of medical science; and when in the search for knowledge they are brought face to face with useful facts it is well to fix them by doing what Captain Edward Cuttle advised in reference to the search for his quotations, "When found, make a note of."

It is not every clinical teacher who has the power to impress his students with a lasting picture of a disease as it comes under his notice. Details are forgotten in after years—it may be in months or even in weeks. The impression has faded, and nothing of the demonstration remains in the memory of the student to testify to his honest ward work or to aid him in his future practice. Herein the value of good note-taking is manifest. Dr. Gowers, who has published some of the most erudite and valuable works to be found in medical literature, has frequently expressed his deep indebtedness to his notes. He has said: "I am deeply indebted to shorthand, for without it I never could have accomplished any of my work." The records of his cases are probably unique in the history of note-taking. The written letter remains, and no detail of any case which has come under his observation is ever forgotten or lost sight of.

The practical question for the student is—How am I to take notes in the class? The answer is very simple. Many students know a little shorthand. To them the task will be more easy, and the only advice which it is necessary to give to these students is to ask them to improve their shorthand, to be contented with a few well-summarised notes written on the left side of their note-book only, leaving the right hand page free for home use. For it is an essential that the rough class notes should be extended. Those students who have no knowledge whatever of shorthand will speedily acquire an abbreviated form of longhand which will probably serve their purpose. The general direction about writing upon one side of the note-book in the class-room should also be attended to by them. The last point of practical interest is to advise students to secure well-bound, substantial note-books which will be useful for reference in future years.

Note-takers nowadays have a very easy time of it compared with what existed in days gone by. If students refer to the early numbers of The Lancet published in the years 1823-24-25-26 they will find some specimens of note-taking which will excite their admiration, and which excited the consternation of most of the medical teachers in London at that period. Sir Astley Cooper's lectures had never been published—had never indeed been written—when in full array, in the year 1823, an almost *verbatim* report of a most important lecture appeared in the first number of The Lancet. Complete ignorance prevailed as to the individuality of the reporter and of the editor of the new medical paper. The reports of these lectures were continued week by week, and, all efforts at discovering the author having failed, a notice was printed and posted up in Guy's Hospital threatening any student found reporting for The Lancet with instant expulsion from the hospital. At length suspicion fell upon Mr. Thomas Wakley, and Sir Astley Cooper determined to ascertain whether he was the offender. Mr. Wakley was one night sitting in his consulting-room in Essex-street, Strand, reading over the proof sheets of one of these lectures, when, before he had time to conceal the pages, Sir Astley Cooper was announced. The eminent baronet sternly eyed the young journalist for a brief space, but gradually his features relaxed into a genial smile. A similar smile made its appearance on the face of Mr. Wakley, thus caught as it were red-handed. They shook hands, however, and after some conversation it was arranged that the remaining reports of Sir Astley Cooper's lectures should be sent to him for revision before they were published in The Lancet, and to this the Editor at once agreed. On another occasion a report appeared in The Lancet of the clinical instruction given by Sir Anthony Carlisle at the Westminster Hospital, which so enraged the physician that he told his students that they had his full authority to drive the note-taker from the hospital with "large sticks." The note-taker had to be protected from the students by some coalheavers and brewers' men.

But students nowadays live in better times. No such restrictions are imposed upon them, and it simply remains for them to seize the opportunities which abound for acquiring information, and when they have obtained it "meet it is" for them, as it was for Hamlet, "to set it down."

UNITED HOSPITAL ATHLETICS.

Nothing remarkable has occurred during the past year in hospital athletics. Guy's have shown themselves to be the best all-round athletes by winning the challenge cup fo cricket, athletic sports, cross-country running and lawn tennis, St. Thomas's, St. Bartholomew's and St. George's winning Rugby football, Association football, and rowing respectively. Several of the competitions were most keenly contested, notably that for the Association football cup the final tie of which had to be fought out no less than three times.

The scheme of Amalgamated Sports' Clubs is slowly spreading, and is now adopted at most of the leading hospitals; it not only saves an immense amount of trouble and time, but it also adds largely to the incomes of the different clubs. Hospital clubs are proverbially poor, and it really seems that the old system of small subscriptions to each separate club had more to do with their poverty than an absence of *esprit de corps*. Interest in the success of his hospital at sports is however, as a rule, of a spasmodic nature to the ordinary medical student; it may be that the absorbing interest of his work precludes him from being very energetic as re-

…ic sports, for when anatomy and physiology are left … clerkships and dresserships forbid the regular in[illegible]ence in games, especially in matches, which occupy … whole afternoon. The whole routine of a medical …ent's life in London is antagonistic to athletic sports. …attention during the first two years to the dissecting-… and physiological laboratory, and later to the duties of …ker dresser, rather tends to induce a system of loafing … leisure hours than indulgence in exercise. If, however, …he fresher" will only make up his mind to take regular … sufficient exercise from the commencement of his career will find it less hard to overcome that feeling of slackness …ch so often follows several hours of dissecting or work … the wards—a feeling that is generally increased rather …n diminished by the dim surroundings of the ordinary "…ggings"—especially, too, as the "fresher" is not as …ite used to the somewhat uninvigorating atmosphere of [illegible].

It would be advisable, therefore, for the first year's man to …thoroughly acclimatised to his new surroundings before …ing in any real hard work. He will feel more inclined …take exercise and engage in sports.

The contest between the United Hospitals A.C. and the …burgh University again ended in favour of the hospitals 5 points to 3, making the fourth successive win for the …pitals since the inauguration of the competition in 1889. …following were the winners :—

FOR THE U.H.A.C.—100 yards: H. T. Bell (Guy's). 220 yards: H. T. …(Guy's). 440 yards: J. W. Summerhayes (St. Mary's). One Mile: …A. Munro (Guy's). Three Miles: H. A. Munro (Guy's). Half-mile: …W. James (St. Bart's.). Putting the Weight: W. G. West (St. Bart's.). …Jump: A. P. Square (Middlesex).

FOR THE E.U.A.C.—120 hurdles, T. M. Donovan. High Jump, …Williams. Throwing the hammer, T. M. Donovan.

The meeting was held in wretched weather, rain coming …continuously. A dinner was given in the evening to …members of the Edinburgh team, at which the President …the U.H.A.C. took the chair, at the Guildhall Tavern.

The United Hospitals sports were held at Stamford Bridge …June 18th, and the increased number of spectators proved …wisdom of holding the sports on a Saturday. The events …a rule were keenly contested, and the times an improvement on former years. No less than three records were …in the 220 yards, half-mile, and three miles. After …years of ill-success Guy's have managed once more to … possessors of the shield. In 1878, by the aid of …Sykes, F. J. Shepherd and J. A. Fraser, they secured a … also made a good fight in the following year; …till 1887 did they come into prominence again, when …G. Mitchell won two events for them. For three years …they failed to get one event, but last year Munro placed …the mile and three miles to their credit. They won six …this year and gained a second in one event, and the …up—St. Bartholomew's—won three and gained six … The following were the winners :—

…yds.: H. T. Bell (Guy's), 10[illegible] sec. 220 yds.: H. T. Bell (Guy's), … 440 yds.: J. W. Summerhayes (St. Mary's), 52[illegible] sec. 880 yds.: …James (St. Bart.'s), 2 min. 2[illegible] sec. One mile: H. A. Munro … mile, [illegible] sec. Three miles: H. A. Munro (Guy's), 15 min. 17[illegible] sec. …hurdles: P. R. Lowe (Guy's), 17 sec. High jump: H. T. Bell …5 ft. 5[illegible] in. Long jump: Jas. McIntosh (St. Bart.'s), 20 ft. 4[illegible] in. …hammer: Jas. McIntosh (St. Bart.'s), 89 ft. 11 in. Putting …: M. Ereton (St. George's), 33 ft. 10 in.

…records stand as follows :—

…yds.: R. R. Conolly (Guy's), 10[illegible] sec. *220 yds.: H. T. Bell (Guy's), … yds.: T. A. Guinness (King's), 51[illegible] sec. *880 yds.: P. W. …(St. Bart.'s), 2 min. 2[illegible] sec. One mile: H. A. Munro (Guy's), …sec. *Three miles: H. A. Munro (Guy's), 15 min. 17[illegible] sec. …weight: W. G. West (St. Bart.'s), 38 ft. 3 in. Throwing …: T. E. Fraser (St. Bart.'s), 93 ft. 10 in. Long jump: B. C. …(St. Bart.'s), 21 ft. 10 in. High jump: P. Pierre (Westminster), … 120 yds. hurdle: B. C. Green (St. Bart.'s), 16[illegible] sec.

* Made this year.

In the Inter-hospital Sports the Challenge Shield has been … by—

…Bartholomew's, eight times; Guy's, six times; St. Thomas's, five …; King's, three times; St. George's, three times; London, once.

…RUGBY FOOTBALL CUP was once more secured by …'s, who have had a monopoly of it for some years. …Guy's were the favourites at the commencement of …ties, but were beaten during the second round by …'s after a close and exciting match. F. W. Goodhue (captain) and E. Bromet (three-quarter back) were the … players for the winners. The various ties …:—

…round: Winners—Guy's, University, St. Thomas's. Drew byes: …, St. George's, King's College, St. Bartholomew's. Second …: …St. Thomas's, Middlesex, St. Bartholomew's, St. George's. Third round: Winners—St. Thomas's, St. Bartholomew's. Final: *St. Thomas's won very easily from St. Bartholomew's.* St. Thomas's: V. Graham (back), E. Bromet, J. L. Prain, and W. H. Thorman (three-quarter backs), N. Hood, A. Montague (half backs), F. Goodhue, J. Carver, R. Storrer, R. Ord, H. Knight, H. Haward, P. Blaber, E. Sutcliffe, and W. Ashford (forwards).

The Cup has been won by St. Thomas's five times, Guy's four times, St. George's three times, St. Bartholomew's twice, by London and Middlesex once each.

THE ASSOCIATION FOOTBALL CUP produced the most keenly contested of all the inter-hospital competitions this year—in fact, three attempts to finish a final have not been before recorded in hospital athletics. Upon the first two occasions St. Mary's ought to have won and paid dearly for misused opportunities by losing at the third attempt, having the misfortune in the meanwhile to lose their most prominent player, E. G. Moon; but it is only fair to the winners to state that they had had bad luck all through the season, no less than half a dozen of their best players being incapacitated at one time or another.

The Cup has been won four times by Guy's, twice by St. Bartholomew's and once by St. Thomas's.

The survivors of the first round were St. Mary's, London, St. Bartholomew's, University College, Guy's, Middlesex, St. Thomas's and Charing-cross. Second round: Winners—St. Mary's, St. Bartholomew's, Guy's and St. Thomas's. Third round: Winners—St. Mary's and St. Bartholomew's. Final: St. Bartholomew's. This was contested three times, the first two ending in draws slightly in favour of St. Mary's, but upon the last occasion St. Bartholomew's obtained a slight lead and kept it to the end. St. Bartholomew's team: E. H. Fryer (goal), F. E. Fernie (captain) and J. Cropper (backs), F. Lewarne, W. Wyllys and W. Pope (half backs), and W. E. Bond, J. F. Fennie, F. J. Dixon, G. R. Fox and C. Neill (forwards).

In the Cricket Cup ties Guy's team showed a most decided superiority over their opponents. In the final tie Guy's met Charing-cross and won rather easily by six wickets.

The principal scores for Guy's were: J. H. Bettington, 3 and 31 not out; E. T. Shorland, 58 and 13 not out; W. J. Hancock, 43. Bettington took nine wickets for 90 and Joyce six for 85. For Charing-cross: C. H. Russell made 13 and 43; H. Thomas, 21 and 30; C. W. Young, 6 and 33.

The winners played good consistent cricket throughout the season and beat several of the best suburban clubs. The United Hospitals Cricket Club, as usual, played only a few matches and on each occasion failed to play anything like their proper strength. The cup has been secured five times by Guy's, twice by King's and once by St. Thomas's.

The Lawn Tennis Cup was won this year by Guy's, who met St. Thomas's in the final and beat them by four points to two.

The Singles resulted as follows:—W. Hancock (Guy's) beat G. W. Bird (St. Thomas's); G. Webb (Guy's) beat C. Knox (St. Thomas's); Davis (St. Thomas's) beat E. Reid (Guy's). The Doubles: W. Hancock and E. Reid (Guy's) beat Bird and Knox (St. Thomas's); Webb and Coulson (Guy's) beat Davies and Ransome (St. Thomas's).

The third contest in the doubles ended in favour of St. Thomas's, as the Guy's men withdrew when "one set" all was cried, they having already played off a tie in the morning. St. George's have won the cup three times, Guy's once, and St. Thomas's once.

Only three hospitals entered for the Rowing Cup ties, St. George's, London (holders) and Middlesex. The holders were never in it with the powerful St. George's crew, who, stroked by J. C. Gardner, had the race at their mercy from the start. There was a good race for second place, London only just beating Middlesex on the post.

St. George's.—J. Hawes (Bow), A. S. Ransome, J. W. Noble, J. C. Gardner ([illegible]ke), A. Thomson (cox). Winners.—1885, London; 1886, Middlesex; [illegible]7, Middlesex; 1888, St. Thomas's; 1889, St. Thomas's; 1890, St. G[illegible]ge's; 1891, London; 1892, St. George's.

The United Hospitals Hare and Hounds Club, under the secretaryship of A. N. Wilde and captaincy of H. A. Munro, enjoyed a fresh lease of life this year, and, amongst other events, was almost successful in beating the Oxford Union Hare and Hounds, the first two places in the contest being taken by Munro and Wilde respectively.

The Ten Miles' Handicap was won by W. H. Kenrick (London), 9 min. start, A. N. Wilde (St. Bart.'s), 1½ min. start, being second. The Four Miles' Handicap was won by Munro, followed home by two Guy's men, Eastment and Wilmot.

Three hospitals entered for the Challenge Cup, which is competed for over the long-distance course, with the result that Guy's won the Cup, St. Bartholomew's beating St. Mary's for second place.

The first five places were taken by H. A. Munro (Guy's); A. N. Wilde (St. Bart.'s); A. Hay (St. Bart.'s); M. Tresidder (Guy's); P. Wilmot (Guy's).

An attempt has been made to start a United Hospitals Swimming Club. St. Bartholomew's, St. Thomas's and Guy's have at present joined, and it is hoped that next summer several others will cast in their lot with the club. St. Bartholomew's have a very good polo team and gave an excellent account of themselves during the season.

CHANGES IN THE MEDICAL SCHOOLS AND HOSPITALS.

At *St. Bartholomew's Hospital* there have been several changes. Sir William Savory has retired from active work in the wards, and has been appointed consulting surgeon. Mr. Morrant Baker has resigned. Messrs. Marsh and Butlin have been elected full surgeons. Messrs. Bowlby and Lockwood have become assistant surgeons. Mr. Ackland has joined the Dental Department. In the Medical School Mr. F. Womack has been elected Lecturer on Physics, and Dr. Shore Lecturer on Biology. Dr. Fletcher has replaced Dr. Hamer in the Physiological Department, and Mr. C. H. Roberts has been appointed an Assistant Demonstrator of Anatomy. Dr. Calvert has joined Drs. West and Garrod in the Demonstrations in Practical Medicine. The Practical Biological work is in the hands of Dr. Shore, who is assisted by Messrs. Groves and Pickering. No appointment has yet been made to the post of Surgical Registrar. It is rumoured that the number of physicians at this hospital will shortly be increased to five, and that a corresponding increase in the number of Assistant Physicians will be also made.

Charing-cross Hospital.—The changes in this school have been many and necessary in order to adapt it to the requirements of the Conjoint Board. Biology, Insanity, Public Health, Practical Midwifery and Ophthalmology have become compulsory subjects. The teaching of Biology has been undertaken by Mr. Chalmers Mitchell, of Christ Church, Oxford, who will also hold classes for the Preliminary Scientific Examination. The department of Psychological Medicine is undertaken by Dr. Hack Tuke. The class of Practical Midwifery has been placed under Dr. Routh's care. The new post of Pathologist and Curator has been formed and Dr. Arkle has been appointed to fill it. Mr. Morgan has been succeeded by Mr Sheild in the teaching of Surgical Pathology. Mr. A. T. Collum is appointed Surgical Registrar, being succeeded by Mr. Gibbs as Junior Demonstrator, and Mr. Dudley Johnston succeeds Mr. Harold as Demonstrator of Physiology.

St. George's Hospital.—Sir William Dalby, having resigned his post as aural surgeon, has been appointed Consulting Aural Surgeon. Mr. Bull takes his place on the active staff. Mr. G. R. Turner lectures on Anatomy in succession to Mr. Bennett. Mr. Dent takes charge of the Orthopædic Department. Dr. Rolleston has followed Dr. Delépine as Lecturer on Pathological Anatomy. Mr. F. C. Kempson succeeds Mr. C. Cotes as Demonstrator of Anatomy. It is expected that at the beginning of the year 1893 the number of house physicians and house surgeons will be doubled.

At *Guy's Hospital*, where during later years there had been greater changes than at any other hospital in London, we have no alteration to record this year either in the staff of the hospital or in the Lecturers or Demonstrators in the school, with the exception that Dr. Starling, having been appointed to the Grocers' Research Scholarship, has ceased to be Senior Demonstrator of Physiology, his place being taken by Mr. Tubby. Dr. Fawcett and Dr. Campbell have become Demonstrators of Physiology in addition to Mr. Tubby, and the subject of Biology for Conjoint Students is taught by Dr. Campbell, Mr. Targett, and Dr. Fawcett. Mr. Wade is associated with Mr. Groves in the department of Practical Chemistry during the summer session.

At *King's College Hospital* Sir Joseph Lister, Bart., has been appointed Emeritus Professor of Clinical Surgery with charge of beds, and Mr. William Rose succeeds to the regular duties of the Professor of Clinical Surgery. Mr. W. Watson Cheyne is now the sole Professor of Systematic Surgery. Mr. Cadman and Mr. Hewlett and Dr. W. A. Turner have been appointed Demonstrators in Anatomy, Bacteriology, and Neuro-Pathology respectively, whilst the new laboratories in State Medicine are placed under the care of Dr. W. R. Smith as Director and Mr. Huntley as Demonstrator.

London Hospital.—Dr. Sansom has resigned the Lectureship on Forensic Medicine and Public Health, and in future Dr. Ralfe will lecture on Public Health and Dr. J. F. Smith on Medical Jurisprudence and Toxicology. Special classes in Practical Midwifery and Obstetrical Operations are now held by Dr. Herman and Dr. Lewers, the Obstetric Physicians. A serious loss has been sustained by the College in the death of Dr. Meymott Tidy, who lectured for many years on Chemistry and Toxicology. Mr. Page has now been appointed Lecturer on Chemistry. Dr. W. Fenwick has been appointed a Medical Tutor. Dr. J. F. Smith has been appointed an Assistant Physician and Mr. H. P. Dean an Assistant Surgeon. The latter lectures on Biology.

St. Mary's Hospital.—No changes have occurred at this hospital.

Middlesex Hospital.—The following changes have taken place during the past year:—Dr. J. K. Fowler has succeeded Dr. D. W. Finlay as Physician. Dr. Pasteur has succeeded Dr. Finlay as Lecturer on Medical Jurisprudence and as Lecturer on subjects relating to Public Health. Dr. F. Voelcker is Pathologist and Curator in the place of Dr. S. H. C. Martin. Dr. W. E. Wynter becomes Assistant Physician, and Mr. A. Pearce Gould is succeeded as Dean by Dr. Sidney Coupland. Messrs. Hartley and Wells assist in the Anatomical Department; Messrs. Young and Doblin assist in the department of Practical Physiology during the summer session.

At *St. Thomas's Hospital* considerable changes have again occurred. Death has removed no fewer than three members of the consulting staff, Sir James Risdon Bennett, F.R.S., Dr. Barker, and Mr. Le Gros Clark, F.R.S. Dr. Bristowe, F.R.S., having completed the additional term of office granted to him, retired in January, and the number of physicians is now again four. (There are still, however, only three assistant physicians.) Dr. J. F. Payne succeeds Dr. Bristowe as joint lecturer on Medicine in the school. Dr. Bristowe, Mr. Sydney Jones, and Mr. Croft have been placed upon the consulting staff. Mr. W. H. Battle and Mr. C. A. Ballance have been appointed assistant surgeons. Mr. F. C. Abbott takes the place of Mr. E. C. Stabb as Surgical Registrar, and Mr. E. H. G. Morris that of the late Dr. Charles Sheppard as Anæsthetist to the Dental Department. Dr. Sharkey succeeds to the lectureship on Pathology vacated by Dr. Payne on his appointment to the joint lectureship on Medicine. The school has to deplore the loss of Dr. A. J. Bernays, who died in January last, after a service of more than thirty years as teacher of Chemistry. He is succeeded by Mr. Wyndham R. Dunstan, with whom is associated Dr. Ince, who undertakes the practical teaching of Physics. Mr. F. G. Parsons has been appointed teacher of Elementary Biology. Mr. Stanley Kent succeeds Dr. Copeman, now an inspector under the Local Government Board, as Demonstrator of Physiology, and Dr. W. H. Tate has been appointed Obstetric Tutor and Registrar.

University College Hospital has to mourn the loss of its senior surgeon, Mr. Berkeley Hill, who had done much to promote its welfare. Mr. Marcus Gunn has been appointed Assistant Surgeon to the Ophthalmic Department. Dr. Mickle lectures on Mental Diseases; Professor Boyce on Bacteriology. Messrs. Weldon and Oliver give the instruction in Elementary Biology.

At the *Westminster Hospital* there have been no changes in the constitution of the staff. The changes in the curbeen necessitated by the additional year's study hav several alterations in, and additions to, the teaching staff of the school. Mr. D. S. Gunn has been appointed an additional Demonstrator of Anatomy, Mr W. G. Spencer will take a definite share in the conduct of the Physiological department, and Mr. Cowell will deliver the entire course of lectures on Systematic Surgery. The subject of Materia Medica, or, as it is termed in the Regulations of the Examining Board for England, Practical Pharmacy is now separated from Therapeutics and Pharmacology, and whilst Mr. Murrell will continue to lecture on the latter subjects to the students, the former is to be taken charge of by Mr. Tanner, the senior dispenser to the hospital. A special course of Lectures on Public Health will be delivered by Dr. S. A. Monckton Copeman, of the Local Government Board. Instruction in Elementary Physics will be given by Mr. Somerville, B.Sc., and Dr. Donkin will hold a class in Elementary Practical Medicine.

Royal Free Hospital.—The only change in the medical staff during the past twelve months is that Mr. G. W. [illegible] has been appointed Senior Resident Medical Officer in place of Mr. Solly, resigned.

Mason College (Birmingham).—The School of Medicine formerly in existence as the "Queen's College" has been transferred to the Mason College, of which, under the title of the "Queen's Faculty of Medicine," it will for the future form a constituent part. New buildings, including spacious dissecting-room, theatres and museums and other necessary offices, have been erected, and will be opened at the commencement of the winter session. Dr. Robert Saundby takes Sir W. Foster's place as co-Professor of Medicine. Dr. Carter succeeds Dr. Rickards as Professor of Therapeutics and Mr. Barclay has been appointed Lecturer on Materia Medica. Mr. Jordan Lloyd has been appointed Lecturer on Practical and Operative Surgery, Mr. Priestley Smith on Ophthalmology and Mr. Huxley on Dental Surgery and Pathology.

Bristol Medical School.—Important changes have been made to meet the requirements of the five years' curriculum. The winter session will be commenced in the new buildings just completed. Dr. Clarke takes charge of the department of Practical Physiology; Professors Leipner and Lloyd Morgan lecture on Elementary Biology.

At *Cambridge University* the buildings formerly occupied by the department of Human Anatomy have been altered and adapted for the classes in Medicine, Surgery, Practical Surgery, Midwifery and Medical Jurisprudence, and now constitute the School of Medicine. The new buildings for Anatomy and Physiology are now complete and contain a handsome suite of laboratories, dissecting-rooms, anatomical museum and rooms for private study and research. A special laboratory has been set apart for Psychological Physiology. Dr. Clifford Allbutt has been appointed by the Crown to the Regius Professorship of Physic, vacant by the death of Sir George Paget, K.C.B., and Dr. Donald MacAlister has been nominated his Assessor. Dr. Adami has been recognised as a Teacher of Pathology in association with Professor Roy. Mr. [illegible] has been appointed a *member* of the Surgical Staff of Addenbrooke's Hospital. Mr. Acton assists in the department for Materia Medica, and Mr. Gardiner in that for [illegible].

At the *Leeds General Infirmary*, in succession to Dr. [illegible] who has become Consulting Physician, Dr. Barrs [illegible] have been appointed Physicians, and Dr. Chad[illegible] and Dr. Wardrop Griffith have succeeded them as [illegible] Physicians. Mr. H. Secker Walker has been [illegible] Assistant Ophthalmic Surgeon and Assistant Surgeon to the Aural Department. Elementary Biology is taught [illegible] Miall. Dr. Cohen has joined the Lectures on [illegible].

At the *University of Durham College of Medicine* (Newcastle-on-Tyne) Professor Arnison and Mr. Page take the Demonstrations in Practical and Operative Surgery. Mental Diseases are taught by Dr. McDowall.

At *University College* (Liverpool) slight changes have taken place. Mr. Thomas is associated with Mr. Banks in the lectures on Descriptive and Surgical Anatomy. Mr. Kellett Smith takes the Anatomical Demonstrations. Dr. Herdman teaches Elementary Biology.

At *Owens College (Victoria University) School of Medicine* the following changes have been instituted. Professor Dreschfeld gives the course of lectures on General Medicine and is succeeded by Dr. Delépine in those on Pathology. Professor Perkin joins in the lectures on Chemistry. Professor Weiss lectures on Botany. Mr. Chalmers assists in the Anatomical Demonstrations.

At the *Sheffield School of Medicine* Dr. Arthur Hall has been appointed sole Lecturer on Physiology. Dr. Littlejohn succeeds Dr. Sidney Roberts as Lecturer on Forensic Medicine, and Dr. Rhodes has been appointed Demonstrator of Practical Pathology. Dr. Burgess lectures on Pathology during the summer session of the school. The lectures on Botany, Chemistry, Physics and Biology are delivered at the Firth College. Students are admitted under certain regulations to the practice of the Borough Fever Hospitals and of the South Yorkshire Lunatic Asylum at Wadsley.

At the *University of Aberdeen* the changes are few. Dr. Finlay lectures on Medicine. Professor Niven teaches Natural Philosophy.

At *St. Andrews University* the only change to be reported is that Professor M'Intosh lectures on Natural History conjointly with Professor Thompson.

At *St. Mungo's College and School of Medicine* the lectures on the Diseases of the Skin are now given by Dr. Alex. Morton, on Diseases of the Ear by Dr. J. Kerr Love, and on Diseases of the Eye by Dr. Wolfe.

At *Anderson's College Medical School* Dr. P. Caldwell Smith has succeeded the late Dr. Christie as Lecturer on Hygiene and Public Health. Professorships of Physics and Zoology and a Lectureship on Mental Diseases have been recently instituted. Dr. Freeland Fergus lectures on Physics (winter and summer), Dr. George Bell Todd on Zoology (winter), and Dr. John Carswell on Mental Diseases (summer).

At the *Glasgow Western Medical School* there has been no change in the staff of lecturers, except that the post of Lecturer on Hygiene is at present vacant through the appointment of Dr. P. C. Smith to Anderson's College. Dr. A. B. Kelly has charge of the Throat and Nose Department and gives instruction in this branch.

At the *Dublin University* Dr. Brooks has succeeded Dr. Little as Joint Lecturer with Professor Cunningham on Descriptive and Surgical Anatomy, and also assists in the department of Practical Anatomy and Dissections. Dr. Purser lectures on Pathology, Dr. Bewley on Hygiene.

At *Queen's College* (Belfast) there is no change, excepting that Dr. W. H. Barrett lectures on Pathology.

At *Queen's College* (Cork) Dr. Aug. E. Dixon has succeeded Dr. Maxwell Simpson in the Lectures and Demonstrations on Chemistry

At the *Dublin Royal College of Surgeons* there is some change to record. Professor Myles lectures on the Institutes of Medicine and on Pathology. Professor Auchinleck lectures on Medical Jurisprudence.

At the *Catholic University Medical School* the following changes have taken place during the year: The School has been incorporated under the Educational Endowment (Ireland) Act, and has got a new governing body and a board of visitors. A chair of Pathology and Bacteriology has been founded and Dr. McWeeney has been appointed to fill it. The School has been rebuilt and refitted during the past year and its working space has been almost doubled. A new Public Health Laboratory, in charge of Professor Roche, has been fitted up and opened for work; it is the first laboratory of its kind established in connexion with a medical school in Ireland. Dr. Coffey assists Dr. Coppinger as Lecturer on Histology and Physiology. Dr. Birmingham gives the lectures on Descriptive and Surgical Anatomy, and is assisted in the Department of Practical Anatomy and Dissections by Drs. O'Carroll, Fagan and Dempsey. Professor Blaney has joined Dr. Sigerson in the Lectures on Botany and Zoology and Medicine.

University of Edinburgh.—There have been no changes in the medical department.

At *Queen's College* (Galway) Dr. Senier has succeeded Dr. Dixon in the Lectures and Demonstrations on Chemistry. He is also Joint Lecturer on Medical Jurisprudence. Dr. Lynham lectures on Pathology.

At *Glasgow University* there have been no changes in the professoriate during the past year.

Dundee Medical School.—The Council of University College has recently made certain appointments which mark a further stage in the progress of this School. Dr. MacEwan has been appointed Lecturer on Systematic Surgery; Drs. McLeod and Stalker, Lecturers in Clinical Medicine; Dr. MacEwan and Mr. Steele Moon, Lecturers on Clinical Surgery; and Dr. Rorie, Clinical Lecturer in Mental Diseases. Dundee is now, by its union with St. Andrews University, in a position to offer the complete curriculum necessary for the first two years of study in all the Scottish Universities.

OPENING OF THE MEDICAL SCHOOLS.

METROPOLITAN.

St. Bartholomew's Hospital.—The session will open on Oct. 3rd.

Charing-cross Hospital.—The term will commence on Monday, Oct. 3rd.

Guy's Hospital.—The session will begin on Monday, Oct. 3rd. The first meeting of the session of the Physical Society will be held on the evening of the same day in the Anatomical Theatre at 8 o'clock. The chair will be taken by Dr. Wilks, F.R.S. A. Ernest Maylard, Esq., B.S., of Glasgow, will read a paper on "How to Remain a Student through Life." There will be a house dinner of the Students' Club before the meeting. After the meeting the rooms of the club in the College will be open for the exhibition of instruments, microscopical preparations and photographs taken by members of the Society during the past year. All past and present students are invited to attend.

St. George's Hospital.—The winter session will commence on Saturday, Oct. 1st, with an introductory address by Dr. R. L. Bowles, at 4 P.M. For many years past the ceremony connected with the opening of the medical session has concluded with a dinner—a gathering of past and present students. The dinner on Oct. 1st will take place at the Hôtel Métropole, when Mr. T. Laurence Read will be in the chair. A large attendance is expected.

King's College Hospital.—The session will open on Oct. 1st. The old students' dinner will be held at Limmer's Hotel, Conduit-street, W., on Monday, Oct. 3rd, at 6.30 for 7 P.M. Professor I. Burney Yeo, M.D., has consented to preside.

London Hospital.—The session will commence on Monday, Oct. 3rd. The old students' dinner will be held in the College Library at 7 P.M.; the chair will be taken by Dr. Langdon-Down, Consulting Physician to the hospital.

Middlesex Hospital.—The winter session will open on Monday, Oct. 3rd, at 3 P.M., when an introductory address will be delivered by Dr. J. J. Pringle, which will be followed by the distribution of prizes awarded during the past winter and summer sessions by Sir Lionel M. Swinneston Pilkington, Bart. The annual dinner of the past and present students and their friends will take place the same evening at the Holborn Restaurant at 7 o'clock. Dr. William Duncan, F.R.C.S., in the chair.

St. Mary's Hospital.—The winter session will open on Oct. 3rd, at 4 P.M., with an introductory address by Dr. A. P. Luff. The annual dinner of past and present students will be held about the middle of October, on the same day as the laying of the foundation-stone of the "Clarence Memorial Wing" of the hospital by T.R.H. the Prince and Princess of Wales. The chair will be taken by Mr. H. W. Page.

St. Thomas's Hospital.—The winter session will commence on Monday, October 3rd, and terminate on March 31st. The prizes for the last session will be distributed by the Right Hon. Sir John Lubbock, Bart., M.P., D.C.L., LL.D., F.R.S., in the Governors' Hall at 3 P.M. During the afternoon the various departments of the hospital and school will be open for the inspection of visitors; refreshment will be provided in the library. The annual dinner, in which all past and present students are invited to join, will take place the same evening at the Hôtel Métropole, at 6 for 6.30 P.M.; H. Laver, Esq., J.P., in the chair.

University College.—The session of the Faculty of Medicine will commence on Oct. 3rd, at 4 P.M., when the Dean's report of the past academical year will be read and an announcement of the scholarships and prizes gained by students during the year will be made, after which an introductory lecture will be given by S. J. Hutchinson, Esq., Dental Surgeon to University College Hospital. The annual dinner of the old and new students will take place at the Hôtel Métropole, at 6.30 P.M., Sir George Buchanan, M.B., in the chair.

Westminster Hospital.—The session will open on Oct. 3rd, at 4 P.M. Dr. Mercier, Lecturer on Neurology and Insanity, will give the opening address. Sir Albert Rollit, M.P., will distribute the prizes, and the dinner will take place at the Holborn Restaurant.

The Dental Hospital.—The term will open on Monday, Oct. 3rd.

The Royal Veterinary College.—The session will open on Oct. 3rd. Introductory address by Prof. McFadyean, B.Sc., F.R.S.E., &c., at 1 P.M.

The College of State Medicine.—The winter session will commence on Wednesday, Oct. 5th, at 4 P.M. The introductory address will be delivered by Surgeon-General W. Robert Cornish, F.R.C.S., C.I.E., Q.H.P., Honorary Secretary and Treasurer of the College.

PROVINCIAL.

Mason College, Birmingham.—The session will open on Sept. 30th. The opening address will be given by Sir George Humphry, M.D., F.R.S., F.R.C.S. Conversazione in the evening, given by the President and Council of the College.

Yorkshire College, Leeds.—The winter session, being the sixty-second of the Leeds School of Medicine, will be opened on Oct. 3rd, when an address will be delivered and the prizes distributed by Professor W. Mitchell Banks of Liverpool.

University of Durham College of Medicine, Newcastle-on-Tyne.—The session will open on Oct. 1st.

Firth College, Sheffield.—The winter session will commence on Monday, Oct. 3rd, at 5 P.M., when the introductory address will be delivered in the lecture room of Firth College by Dr. Burgess, Lecturer on Pathology at the Sheffield School of Medicine and Senior Physician to the Sheffield Public Hospital and Dispensary. The annual students' dinner will be held some time during October.

SCOTLAND.

Aberdeen University.—The term will commence on Oct. 11th.

Edinburgh University.—The session will open on Oct. 11th.

Glasgow University.—The winter session in the Faculty of Medicine will be opened on Tuesday, Oct. 18th, when an inaugural address will be delivered by Professor Cleland, M.D., LL.D., D.Sc., F.R.S., the subject being "Anatomy: its Place in Education."

Anderson's College Medical School, Glasgow.—The winter session will be opened on Tuesday, Oct. 18th, at 3 o'clock, with an introductory address by Professor William L. Reid, M.D.

St. Mungo's College, Glasgow.—The term will commence on Oct. 18th. An introductory address will be delivered by Professor McVail.

Medical School, Glasgow.—Oct. 18th. This school is to be opened with an address by the lecturer on Gynæcology—"Early Ovarian and Tubal Disease."

College, Dundee.—The session will open on Oct. 11th.

IRELAND.

College, Cork.—The term will begin on Oct. 18th.

College, Belfast.—The session will open on Nov. 3rd.

THE CHOLERA.

GLAND'S ATTITUDE IN FACE OF CHOLERA.

amendment of the cholera regulations which has been by the Local Government Board constitutes one of important steps hitherto taken towards preventing of cholera into this country. The regulations have formerly been in operation, whilst requiring the of those actually sick of cholera or suspected to sick, have permitted the landing of presumably healthy on condition that, where this was practicable, the of such people, together with details as to their should be given to the port sanitary authorities. scheme has hitherto sufficed. But the immigration Russian Jews into this country, which has now time past given much anxiety to the Medical of the Local Government Board, has, as a matter upset all previous experience. Until the present prevalence such addresses as we refer to have been and the result has been that, without any restriction on the movements of hitherto healthy into this country, persons who have come off an vessel have been kept under observation by the officers of health of the districts to which they have

the case of the Russian Jews such addresses are but and hence a horde of destitute people settling down here and there in the worst parts of of London, and all traces of them have been after they have been landed at the docks. an essential feature of our English cholera regu- has been altogether defeated. This will now no the case; for under the new regulations no persons allowed to land, whether from vessels certified to be with cholera or to contain passengers who are or otherwise unwholesome condition, unless they satisfy the medical officer of health of the port as to of destination and addresses at such places. of this regulation will be that if the shipping or their agents choose to bring a number of home- destitute people into our ports, they must be pre- that such people will not be allowed to leave the they will have either to make adequate provision shore, or they will have to take them back again whence they sailed. Few shipping companies to run this risk, and we may hope that the season

boat brought one or two cases which, for some reason or other, after being allowed to remain in the bay instead of being taken to the authority's hospital, were sent round by tug to Gravesend, where they were, to say the least, in the best of hands, both for their own sakes and for the safety of the country. And the story of the London port is even more interesting. The *Gemma* arrived with Russo-Jewish emigrants, of whom three had cholera. The ship was not only detained off Gravesend by Dr. Collingridge, but that able health officer went on board, remained there three days and nights, removed the sick to the port hospital, and in the end landed the remainder of the almost homeless passengers under canvas on the shores of the Thames. His attitude throughout was energetic and wise; and we understand that the Local Government Board telegraphed to him their appreciation of the action he had adopted. The *Portia* next arrived, and although one child had been buried at sea, the nature of the disease could not be defined, and as the new regulations had not yet been issued she passed into London and her emigrants were distributed, with the result that at least one case of highly suspicious choleraic diarrhœa occurred amongst their number. Another vessel, the *Peregrine*, landed Hamburg passengers at Harwich. In two days three of them, who resided in the City-road, were found to be ill; two of them having cholera, they were removed to St. Bartholomew's Hospital, and one has died. In each of these cases the local health officers and officers of the Medical Department of the Local Government Board have done their utmost to deal with the occurrences in such a way as to avoid further spread, and thus far, notwithstanding multiple importations, no cholera has occurred in England except in persons actually arriving from Hamburg.

In the meantime it is satisfactory to know that long before any public alarm was aroused visits to our Eastern ports were being made by medical inspectors of the central authority, and that the port authorities were urged in advance to meet the very emergency that has arisen. Some of those ports, notably Newcastle and Hull, maintain themselves permanently ready to perform all their duties; in the case of others temporary arrangements have had to be made. In view of the extension of cholera to such French ports as Havre, the system of medical visits has been carried on at our south-eastern and southern ports, and as rapidly as can be managed the same system will be further extended to other ports having communication with infected ports. But, at the same time, it should be remembered that these visits in no way relieve port authorities from the obligation of performing duties which have for many years been imposed upon them, and of the nature of which they are perfectly aware. We believe the present state of affairs at some of our principal ports in the south of England to be highly discreditable. Mooring stations are not yet even determined on, no means of isolating first attacks of cholera have been provided, and the clamour is for outside and imperial help to make up for a default which elsewhere has been met by the action and at the cost of the port districts themselves. If this emergency passes by, as we hope and believe it will, we trust the interval of the next few months will be utilised to secure a state of preparedness for next year, which is very likely to bring with it dangers far in excess of any that we are running when cholera first reaches us towards the end of that season in which it has the best chance of spreading in our midst.

and asylum in April last, before the Asiatic epidemic had invaded Russia. The disease spread in the suburbs north and west of Paris and has extended to Havre.

The study of epidemic cholera as a branch of epidemiology is one thing and the study of the causes of its progress in relation to definite communities of human beings and its propagation among the series of units of which such communities are composed is another; and different conclusions will be probably reached according to the standpoint from which the observations are made. To the one set of observers a conviction of the existence of some primary law as yet unknown will be regarded as the paramount influence to which all other causes, real and alleged, are subordinate. To the local observer, however, proceeding by a slow and cautious induction and by way of accurate and repeated observations on a small scale, the cause of the phenomena will be differently accounted for; human agency will occupy the foremost place and be regarded as affording an adequate explanation of what is taking place on a large scale. The members of the profession likely to encounter cholera are meanwhile seeking for some firm foothold of fact and desirous of knowing how they may practically guide their way by the light of past experience and present knowledge interpreted by common sense and sound judgment.

It is difficult to lay down precise rules that shall be generally applicable or within reach of attainment by all. Still, there are certain rules and precautions about which most persons are agreed or in support of which a considerable amount of evidence might be adduced.

The first thing to be inculcated then is, in popular language, "not to lose one's head;" to avoid creating or adding unnecessarily to any existing state of apprehension and nervousness by any exaggerated or sensational statements. Let it be borne in mind that epidemics of cholera make little or no financial impression on life assurance offices. People who insure their lives are ordinarily frugal, temperate and careful people whose modes of living and surrounding conditions, both general and personal, are hygienic and wholesome. Such people do not commonly die of cholera. The fact furnishes a standard to be worked up to, although it is not, of course, always attainable.

The only real safeguard against cholera is sanitation in its broad as well as in its restricted and particular sense. First and foremost, a pure water-supply; next, good air and free movement of it, cleanliness, wholesome food, a temperate life, and the avoidance of all overcrowding. Dirt and refuse of all kinds should be at once removed, drains and sewers thoroughly flushed, cisterns inspected and cleaned if necessary, windows kept open and walls whitewashed; but it is important to avoid all sloppiness of yards, floor surfaces and damp earth. If the drinking water is not of established purity it is imperative to boil it before use, and milk should be similarly treated when it comes into the house. In respect of sanitation, it may be fairly said that great progress has been made of late years, and our prospects, in the event of the occurrence of an epidemic this year or next, should consequently be better than they have ever before been.

Land quarantine and sanitary cordons are impracticable and consequently futile. Sanitation and the removal of filth are practicable and reliable measures, and their utility is not limited to cholera, but applicable to all diseases.

The steps that have been taken at the instigation of the medical advisers of the Government seem to us to have been wise and judicious and likely to achieve their aim and object without any needless and unnecessary hardship being inflicted on individuals, and our port and other sanitary officers have exercised, and are still exercising, the most vigilant supervision within their own respective spheres of work.

During the prevalence of epidemic cholera it is safest to regard the human constitution as in a state of unstable equilibrium, and consequently to avoid everything that would lower the health, especially everything that would tend to create indigestion or diarrhœa, and not to make it the occasion for instituting any radical change in life or habits.

When cholera or choleraic disease is present in any town or district it is safer to leave it, and for persons living in a low and crowded locality to move to the highest and most exposed site available, and above all to avoid overcrowding. It must not be forgotten that overcrowding of houses or people means danger during all times of epidemic disease; that persons coming from an infected district, if they bring nothing else bring themselves, and at any rate add to the danger by adding to the numbers. A number of immigrants arriving from an infected district—possibly dirty as regards their persons, and still more so as regards their clothes—may be provisionally regarded as so many minute migratory fragments of the locality whence they came.

On the occurrence of cholera in a household the safest plan no doubt would be to vacate the house and leave it unoccupied for ten or more days, during which it should be disinfected and thoroughly cleansed and ventilated. As regards the prophylactic and therapeutic treatment of cholera, we would suggest the expediency of having an acidulated beverage for ordinary household consumption when the disease is actually present in the neighbourhood. A drink composed of previously boiled water well acidulated with sulphuric acid or with citric acid, and slightly sweetened, is an excellent one and not at all distasteful. We do not know that it has ever been practised, but the effect of a few grains of quinine daily as a prophylactic might, perhaps, be worth trying.

It is safer to regard all diarrhœa at such times as possible cholera and to act accordingly, taking steps for its speedy detection and treatment, for the sufferers are frequently apathetic with regard to it. The patient should be at once placed under medical observation and remain recumbent in a cool room. Provided it were from the first painless and n the result of indigestible food or due to some irritant, when a small dose of castor oil with or without some opium would be indicated as the remedy, it is best to try to stop it, and, if the stools are very loose and attended with depression, to at once use a hypodermic injection of morphia and atropia, administer a mixture of either aromati sulphuric acid or sulphurous acid frequently in small doses with a little iced beef-tea or beef-juice or iced whey, and fragments of ice to suck, together with some stimulant or not, as deemed advisable. In a very considerable number of cases the adoption of this or of some similar method of treatment would prove successful, if commenced at once. But it cannot be too well known that the effect of opium or of opium and brandy appears to be very injurious in cholera when collapse has supervened. The number of remedies that have been proposed for this disease has been legion, and the fact itself demonstrates that there is no really efficacious remedy. The administration of drugs in cholera collapse seems to be based upon a misconception of its true pathology. That they are often administered with real or apparent impunity only serves to indicate that they do not act because they are either speedily vomited or not absorbed if retained. In cholera collapse the whole system is profoundly altered. Absorption is arrested, owing probably to the loss of inhibitor functions of the ganglionic nerve centres; exosmosis is proceeding unintermittingly, endosmosis reduced to *nil*.

Speaking roughly, the actual attendants on cholera cases do not apparently run any greater risks than other individua exposed to similar local influences in the place or district i which the disease happens to be prevailing at the time. The great thing to be observed is perfect cleanliness. A wise caution suggests what is the common practice—viz., the lavish use of disinfectants for all excreta and fouled linen and the burning of all such articles as cannot be promptl disinfected; moist heat and the use of the perchloride of mercury solution, or, when this might prove dangerous, strong solutions of carbolic acid, chloride of lime, or other approved disinfectants, being employed for the purpose. The washstands in the sick room or ward should be supplied wit some disinfectant solution, and a ball of sand soap and or of carbolic soap, with nail-brushes, for use invariably befo quitting a cholera ward or patients suffering from the disease.

REPORTS FROM THE LONDON HOSPITALS.

We have made inquiries at all the London hospitals, ask ing for information regarding any cases of cholera which hav been treated during the past week at these institutions. W have received returns from all the hospitals to which we hav applied, and it appears from them that with the exception of St. Bartholomew's Hospital no case of cholera has bee treated during the past week in the metropolis.

From St. Bartholomew's Hospital we are supplied by D Frederick E. Batten, house-physician, with brief notes of tw cases which were admitted to this hospital on Aug. 3 under the care of Dr. Lauder Brunton. The first patie aged thirty-five, a male, left Hamburg on Saturday, Au 27th, accompanied by his wife and child, landing at Ha wich on Monday, Aug. 29th. They came to London, and o Monday evening at 9 P.M. the patient was suddenly tak ill. The symptoms of his case were profuse diarrhœa wi pains in the back and severe cramps in his legs. He wa removed on Tuesday morning, Aug. 30th, to St. Bartholome spital and was received there in a very collapsed condition. He showed signs of slight improvement, but died finally at half-past three o'clock on Wednesday morning, Aug. 31st. The second case was that of the daughter, aged five, of the above-mentioned patient. The little girl was taken severely ill on Tuesday morning with frequent diarrhœa and vomiting. When admitted on Tuesday morning, Aug. 30th, she was much collapsed; she improved, however, after a few hours' treatment, and remains at present in the same improved condition, and she may recover. Neither of these cases, it may be remarked, presented *all* the distinctive features of Asiatic cholera.

A case occurred at St. Thomas's Hospital which excited considerable anxiety on Thursday last, Aug. 25th. We are supplied with the following details by Mr. Cecil Lalter, acting resident assistant physician. A female patient, very much collapsed, was brought from a cab into the casualty room suffering from severe cramps in the legs and arms. Whilst being examined the patient vomited. She remained perfectly conscious and collected. It appears that the patient up till 4 o'clock that afternoon had been in her usual state of health. She was seized suddenly. On the following morning she was feeling well, but passed no urine for twenty-four hours. Her bowels had not been opened for two days. She was then given an aperient, the resulting motion being loose; otherwise normal. She has had no further symptoms.

There is no further evidence of any suspected case in any of the London hospitals.

PREPARATIONS IN CASE OF NEED.

Most of the hospitals, however, have been preparing proper accommodation for the reception of cholera cases. The London Hospital, being in the centre of the district in which emigrants usually settle, is likely to be the first to which cases of cholera are brought, and the managers, being thoroughly alive to the necessity, have made ample provision for the reception and efficient treatment of cases. A ward conveniently situated for the separate treatment of cases has been got ready for males and one for females affording accommodation for twenty cases, and provision has been made for allotting more wards if necessary. The members of the medical staff attended on Tuesday at the meeting of the House Committee, and it was decided that all cases at all suspected of being cholera should be sent to the ward prepared for the purpose. Infected clothes &c. will be burnt. Tow, hay and straw are provided for the reception of the stools of cholera patients, and after being placed in suitable receptacles will be disinfected with dry disinfectants and burnt in the furnaces. The sanitary arrangements of the hospital are stated to be now completely remodelled on the most approved system.

REPORTS FROM SEAPORT TOWNS.

Further, we have ascertained from the medical officers of health at the various ports stated to have been visited by cholera that at Hull, at Dundee, at Gravesend and at Newcastle-on-Tyne no cases of cholera have occurred. The medical officer, Dr. J. H. Gramshaw, informs us "that no case of cholera has been reported at Gravesend, that the health of the town is excellent, and even diarrhœa, except in the case of a few infants, is almost unknown. The three cases from the *Gemma* were landed at the Port Sanitary Hospital at Denton, below Gravesend, and were never in the town at all. After death they were carried by a circuitous route to the cemetery on the outskirts of the town, and then

city. Cases brought by vessels in the Mersey will be sent to the hospital at Bromborough on the Cheshire side. Up to the morning of Aug. 31st one death had occurred.

We are informed that in South Shields a case of cholera was notified in that town on Aug. 29th. The patient was one of the crew of the ss. *Gerona*, which arrived in Middlesbrough on the previous Friday. Some six of the crew came to South Shields on the Saturday, but up to Aug. 31st the other five are well. The man was suddenly seized on the Sunday with violent diarrhœa (fourteen motions), abdominal pain and cramps in the legs, vomiting and prostration. The surface temperature was subnormal, but there was no lividity or collapse. The motions were not characteristic, but continued throughout of a yellow colour. Next day he was a good deal better, his diarrhœa had almost ceased, and he had no pain. On Wednesday, Aug. 31st, his temperature and pulse were normal; he slept well and his appetite had improved. There was considerable doubt about the diagnosis; but in view of the fact that the ship came from an infected port (Hamburg) and that another case was reported to have died on the ship, all precautions were taken as though it were an undoubted case of cholera.

CHOLERA IN SCOTLAND.

Regarding cholera in Scotland we have made inquiries at Dundee and the medical officer informs us that no case of cholera has come under his notice at that port.

We are indebted to Dr. James Allan, superintendent of Belvidere Hospital, Glasgow, for the following notes of cases which have occurred in that institution:—"There are at present two cholera cases in Belvidere. The patients (a man and a woman) are Russian (Jew) emigrants, who reached Glasgow by Hamburg and Leith. The male patient was admitted to hospital at 1 o'clock on the morning of the 27th ult. I saw him with Dr. Watson, one of my assistants. The patient's appearance was a confirmation of the diagnosis (cholera). The pinched face, the cold, dark, shrunken hands, which were feebly tossed about, and the husky, moaning voice conveyed a sufficiently dismal impression. He had a motion which was reported by the nurse as like milk. Without going into detail, it may be said that the man had very scanty urine (practically suppression) and that the urine was albuminous. He had also vomiting, a miserable pulse and subnormal temperature. When reaction set in the man's face had a dull-red flush and his pulse altered its character; he had hiccough. This patient is apparently going on to convalescence. The woman was admitted here at 9.55 A.M. on the same date (27th ult.) and was evidently suffering from the same disease. She looked wretched. Her hands were cold and somewhat shrunken, her voice husky and hollow, her temperature subnormal. Alvine evacuation like milk. In this case also reaction has taken place. I placed Dr. Parker (one of the assistant medical officers) in charge of the cholera patients, relieving him of all other duty. The treatment has been chiefly iced water, sulphuric acid and opium, brandy &c. Careful precautions are being taken in the way of cleanliness, disinfection &c. Three nurses belonging to our staff have been set aside to attend on these cases, a duty which they undertook without the slightest hesitation—nay, with alacrity."

SANITARY PRECAUTIONS AT SEAPORTS.

The port sanitary authority of the river Tyne has caused all vessels from infected ports to be boarded on their arrival, and the crews and passengers to be medically examined. At this with the power of detention for medical inspection. Similar stringent measures have, by order of the Local Government Board, been adopted at other British ports. We have elsewhere alluded to the unsatisfactory state of affairs at some of our principal ports on the south coast. We trust that this will be remedied without delay.

THE CHOLERA IN BELGIUM:

A VISIT TO JUMET.

(FROM OUR SPECIAL CORRESPONDENT.)

FROM Brussels to Jumet it is necessary to take the main line towards the French frontier in the Charleroi direction till the junction of Luttre is reached, and there a local train conveys the traveller to Jumet-Brûlotte. On descending here I soon perceived that Jumet, though it appears in the demographical weekly reports as one place, with a population of 24,259, is in reality a small country consisting of a dozen or more villages. These villages sometimes touch one another, and it is difficult to say where one begins and the other ends. Elsewhere they are separated by a broad expanse of cultivated land.

The young son of Van Esbercq, a youth about nineteen, fell ill, and the father, alarmed, determined to accompany him home so that he might be nursed by his mother, who had remained at Jumet to take care of their cottage. The youth arrived at Jumet on Aug. 13th; he was suffering from violent cramps, vomiting and diarrhœa. The father went back to work at Sarcelles. On the night of Aug. 17th the father fell ill. His fellow workers had to take the mattrass on which he slept and place it outside the overcrowded and stifling hut in which they were herded together. On the evening of the 18th Van Esbercq determined to return home. He travelled all night, was extremely ill on the way, with vomiting and violent diarrhœa, notably at the station of Creil while waiting to join the main line train. He arrived at Jumet at five o'clock on Thursday morning and died at 2 A.M. on Saturday morning, Aug. 20th. Van Esbercq's son-in-law and his little daughter, a girl of about twelve years of age, were also ill. All the seven members of this family returned to Jumet, together with many other brickmakers, who were so alarmed by the amount of sickness and the number of deaths at Sarcelles that they preferred losing the season to risking their lives in such a place. Yet this sudden departure has involved these workers in a serious loss. It is too late, in the brickmaking season, to obtain employment elsewhere, and they have not worked long enough in the neighbourhood of Paris to cover the expenses of the journey and put by a provision for the winter months.

Van Esbercq's cottage is situated on the crest of a hill. His midden-closet is in a yard behind, some ten feet lower than the street level in front of the cottage. To reach the latrine he had to go down dark steps and pass by a cellar which is under the cottage. In this cellar is the well. The inhabitants say it is seventeen yards deep from the level of the street; in any case, the water is at a much lower level than the midden or ash closet above used by the cholera patients. On the other side of the road is a large square block of houses, and at the angle of this block building, just facing Van Esbercq's cottage, there is another very deep well. Though this building is a little above the level of Van Esbercq's cottage, the well, which supplies drinking water to the whole of the inhabitants, certainly goes below the level of Van Esbercq's cottage and his latrine. It is in this block of houses that four cases and three deaths occurred. The victims—a widow and her daughter in one tenement, and two children in another tenement—had not come from Paris, but they were taken ill after the Van Esbercqs returned from Paris. In the same block of buildings there is a bakery and the water used in making the bread is taken from the well in question. I understand that samples of this water have been secured for analysis, and the well has within the last day or so been repaired.

A few yards higher up than this block building I called on a man who lived in a small cottage. He said that before Van Esbercq died, but after the return of Van Esbercq's son to Jumet, he was seized with violent cramps, diarrhœa and vomiting. He added that his skin became icy cold and of a bluish colour. I asked him if his cottage had been disinfected. He showed me a bottle which had contained about half a pint of a disinfectant. This had been given him and this is all that had been done. The man had been taken ill while working in a coal mine and was so bad that it was necessary to send him up at once to the surface. In the opposite direction, and lower down than Van Esbercq's cottage, I saw a young mother who had lost her child four months and a half old after two days' illness. I could get no clear description of this illness beyond the fact that the child was evidently in great pain, vomited violently and had excessive diarrhœa. The woman drank water from a well built in the cellar underneath her house and had had no disinfectants whatsoever supplied to her. Probably this was only a case of infantile diarrhœa; but under the present menacing circumstances it struck me that disinfection, even where it is not needed, would be, if a mistake, still a mistake in the right diiection.

Jumet, Aug. 30th.

THE ALARM IN BRUSSELS.

P.S.—On my return from Jumet I find Brussels in a state of alarm, the newspapers having stated that four cases of cholera had occurred in the capital. Two of the patients had been transported to the St. Peter Hospital. The first was a man who had come from Paris, and was suffering from a form of skin disease. During the night he was attacked with violent vomiting, and died suddenly. Somewhat carelessly, apparently, the death was declared to be due to cholera. The bedding, linen &c. were immediately burnt, and all the surroundings washed with a strong mercurial solution. The body was taken to the cemetery and a post-mortem examination held this morning. I have just seen the certificate. There were some *lésions spéciales intérieures*, but *aucune lésion du choléra*. In any event, cholera or not cholera, the man came from Paris, and therefore at the worst it is but an imported case. The other case is that of a man who is now recovering. He suffered from violent diarrhœa, but the medical attendants declare that there were no special symptoms of cholera. Nevertheless the patient has been removed to the hospital and his room disinfected, and every precaution taken, just as if it was a *boná-fide* outbreak of cholera. The two other cases occurred not in Brussels, but in the suburb of Schaerbeek. A woman and child arrived from Paris; the woman is dead, the child ill. From all accounts these two are genuine instances of cholera imported from France.

Brussels, Aug. 31st.

WE are glad to notice that some suggestions we made last week have been adopted without delay. A lecture to nurses on the nursing of cholera and the precautions to be taken in dealing with this disease was given by Dr. Heron on Thursday at the offices of the Royal British Nurses' Association. The lecture will be repeated on Monday, Sept. 5th. As Dr. Heron has had practical experience of cholera and has contributed some valuable papers to the literature of the subject, it is probable that many nurses will avail themselves of the opportunity. The lectures are open only to nurses, and the secretary (8, Oxford-circus-avenue) will give all necessary information. H.R.H. Princess Helena, President of the Association, asks us to make known that they are "now enrolling nurses who are willing to devote themselves to the care of patients who may be seized with cholera, and to obey the call of duty at a moment's notice."

In view of the fact that a number of steamers arriving from Hamburg have taken Hamburg water on board, the Local Government Board have issued an order enabling port medical officers of health to require such water to be got rid of before the vessels enter docks; the port authority to provide an alternative supply for immediate domestic uses. Bilge water must also be pumped out.

We understand that Her Majesty the Queen is evincing the greatest interest in the action which is being taken by the Local Government Board, by port and local authorities to prevent the spread of any cholera which may be imported into this country.

Our Berlin correspondent informs us that the Medical Board of Hamburg published the following figures in reference to deaths from cholera from Aug. 18th till noon of the day.—"The cases of cholera-like disease numbered 219, the deaths 75. Dr. Koch, who visited Hamburg, declared that the character of the disease justified the gravest anxiety. The Hamburg American Steam Packet Company ordered its large double screw steamers not to come to Hamburg, but to ply between Southampton and New York. It also refused to carry steerage passengers on board its other steamers till further notice. The Heligoland steamers were ordered not to come to Hamburg, but to ply between Cuxhaven and the North Sea watering-places. Seventy-six cases of cholera-like disease with 46 deaths occurred in Hamburg in the afternoon of Aug. 23rd, 183 with deaths, on the 24th; 295, with 130 deaths, on the 25th. The Senate ordered all the schools in the city and the territory belonging to it to be closed, forbade public dancing, and licensed all keepers of hotels and restaurants and sellers of liquors in the streets to sell cognac *ad libitum* till the [illegible]. The Water Committee has threatened penalties against waste of water. On the 26th 416 cases and 150 deaths were reported. Many families have left the city. Charitable people have distributed disinfectants, cognac and medicines gratis. Private equipages, furniture vans and bakers' wagons are used for the transport of patients and corpses. Yesterday the representatives of the citizens unanimously voted half a million marks (say shillings) for the eradication of the epidemic. Senator Bachmann, chief of the Police stated that the total number of cases till noon yesterday had been 3400, the number of deaths 1070. The Medical Officer of Bremen stated yesterday that among the sixteen cases of cholera-like disease that had occurred there not one case of Asiatic cholera had been detected. Only one case of cholera has as yet been detected at Berlin, that of a woman from Hamburg. The Emperor is taking a keen interest in the fight with the formidable enemy. It is probable that a bill for the warding off of infectious diseases will be laid before the Reichstag next session." The meeting of the German naturalists and medical men, which was fixed to take place at Nuremberg on the 12th prox., has been postponed till next year owing to the cholera.

Dieu, where a special service under Professor Proust has been organised. A contradiction is given in *Le Temps* of Monday to the rumour circulated by one of our morning contemporaries of the existence of cholera at Aix-les-Bains. It is said that not a single case has broken out there."

Medical News.

WE regret to announce that Sir George H. B. Macleod died suddenly on Wednesday morning at his residence, 10, Woodside-crescent, Glasgow. Owing to the crowded state of our columns we reserve a fuller account of this eminent surgeon for our next issue.

WE have regretfully to record the death of the distinguished alienist, Dr. William Wood, F.R.C.P.Lond., of Harley-street, consulting physician to St. Luke's Hospital. Dr. Wood, who passed away on the 28th ult., at the age of seventy-five, was a frequent contributor to medical literature in the domain to which he devoted his attention.

THE ACCIDENT TO MR. GLADSTONE.—As the accident which happened to the Premier on Monday, the 29th ult., has given rise to much anxiety in the public mind, we are glad to be able to state on authority that the right hon. gentleman was able to walk home after the accident, and has suffered no ill effects from it beyond experiencing slight stiffness on the following day.

MIDWIVES' REGISTRATION.—The Select Committee appointed by the House of Commons to consider the question of the compulsory registration of midwives have published their report. In view of the evidence the Committee consider that some legislative provision for improvement and regulation is desirable, and that in connexion with parish infirmaries and home practice there is a wide field, at present unused, for training in midwifery. The Committee recommend a continuation of the inquiry in the next session of Parliament. We propose in our next issue to give a digest of the evidence of the various witnesses who have appeared before the Committee.

Births, Marriages and Deaths.

BIRTHS.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 1st, 1892.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry bulb.	Wet Bulb.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Aug 26	30·00	N.W.	62	57	121	72	57	..	Cloudy
„ 27	29·87	S.W.	62	59	87	61	55	.	Cloudy
„ 28	29·54	N.E.	64	54	106	70	54	1·50	Raining
„ 29	29 74	E.	58	57	97	71	54	·27	Raining
„ 30	29·62	S.W.	64	61	115	72	57	·03	Raining
„ 31	29·64	W.	62	56	119	69	56	·02	Cloudy
Sept. 1	29 95	W.	57	53	114	63	52	·16	Cloudy

OUR CURRENT NUMBER

Being almost exclusively devoted to information especially interesting to Students, we are necessarily compelled to defer the publication of communications on other important subjects.

We tender our best thanks to those gentlemen who have kindly supplied us with the returns and prospectuses upon which the information given in this Students' Number of THE LANCET *relative to the various medical examining bodies, hospitals, and medical schools of the United Kingdom is based.*

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. F. P. Atkinson, Surbiton; Mr. Arrowsmith, Bristol; Messrs. Armour and Co, London; Mr. J. Bradfence, Edinburgh; Dr. C. A. Bontor, Great Berkhamstead; Dr. M. Mitchell Bird, London; Messrs. Barker and Sons, London; Dr. A. M. Bolton, Roumania; Messrs. Benger and Co., Manchester; Mr. Brasier, London; Dr. Benson, Pinner; Mr. T. B. Browne, London; Mr. Brooks, Nottingham; Mr. J. E. Cooney, Fulham; Mr. Clarke, London; Mr. E. Colson, Jersey; Messrs. Clay and Sons, London; Dr. Chavasse, Birmingham; Mr. Conant, Chicago; Mr. Cornish, Manchester; Dr. Currie, Algiers; Messrs. Douglas and Mason, Edinburgh; Mr. Duncan, Newcastle-on-Tyne; Mr. Clement Dukes, Rugby; Mr. W. A. Davidson, Leighton; Messrs. Deacon and Co., London; Mr. Ellis, Newcastle-on-Tyne; Messrs. Edgington and Co., London; Mr. F. Ensor, Port Elizabeth; Messrs. Fannin and Co., Dublin; Mr. E. H. Fenwick, London; Mr. George Foy, Dublin; Mr. Greenwood, Kent; Mr. Godson, Redditch; Mr. Greatorex, London; Dr. A. B. Harris, Falmouth; Mr. S. C. B. Hunter, Bristol; Mr. J. P. Henry, London; F. L. Hughes, London; Dr. G. W. Herschell, London; Mrs. L. S. Harris, Matlock; Dr. Harris, London; Mr. Hargreaves, London; Mr. Hyde, Buxton; Mr. Heywood, Manchester; Mr. Harker, Bournemouth; Messrs. Humphreys, London; Mr. Hallet, London; Dr. M. Jones, London; Mr. Jackson, London; Mr. Keely, Nottingham; Mr. W. T. Little, Maidstone; Mr. Lintern, Ivy Bridge; Mr. Lester, Hitchin; Mr. W. Lawley, London; Mr. Lamond, Glasgow; Mr. Lewis, Birmingham; Mr. Menzies, Surrey; Dr. McRitchie, Huntingdon; Mr. McElfatrick, Mere; Mr. Myers, London; Dr. Murray MacFarlane, Toronto; Dr. Milton, Cairo; Dr. J. C. M'Given, Derby; Mrs. Norris, West Hampstead; Mrs. Ogston, Walker-on-Tyne; Messrs. Oliver and Boyd, London; Mr. O'Flaherty; Dr. J. A. Ross, Folkestone; Mr. G. A. Roberts, London; Mr. J. G. Reynolds, Wolverhampton; Messrs. Robertson and Scott, Edinburgh; Mr. Russell, Liverpool; Messrs. Riddle and Co., London; Mr. Rolls, Weymouth; Mr. Spencer, Devonport; Mr. Sell, London; Messrs. Street and Co., London; Mr. Startin, London; Messrs. Swan Sonnenschein and Co., London; Messrs. Seear, Hasluck and London; Mr. Setley, Leamington; Dr. J. C. Steele, London; Octavius Sturges, London; Dr. A. P. Sherwood, Eastbourne; Dr Mackay White, Dundee; Mr. W. R. Williams, Preston; Miss Wal Buckingham; Mr. Wilkes, London; Mr. Whitwell, Thaxted; Me Whitworth and Stuart, Manchester; Mrs. Walker, Buckingh Dr. Ward, Oxford; Mr. Williamson, Manchester; Alpha, Liverp Afressin, London; Boz, London; Clavicle, London; Dear F Energy, London; G. S., Seething-lane; Glaucus, London; Je Sanitary Co., London; J. P. T., London; Maltine Manufacturing *North Wales Guardian*, Wrexham; Nucleus, London; Pond's Ext Co., London; R. K., London; R. H.; Sanitas Co., Bethnal gre Secretary, University College, Dundee; Secretary, Ancoats Hosp Manchester; Secretary, Derbyshire Royal Infirmary; Spes, Lond T. W. H., London; Vaccinator; W. A., London; X. Y., London.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Aldr Southampton; Miss Austin, Great Yarmouth; Mr. Abbott, Tunbri Wells; Mr. Arnett, Tenby; Dr. Baxter, Bromley; Messrs. Blake Co., London; Mr. Bennett, Denmark-hill; Mr. Bowen, Carnarv shire; Mr. Buck, Hyde; Mr. Balmford, Morecambe; Mr. Birkenhe Banbury; Dr. Croke, Beverley; Mr. Coates, London; Mr. Cas Lancaster; Mr. Chrispin, Featherstone; Mr. Cornish, Birmingha Mr. Cawston, London; Mr. Davey, Islington; Mr. Davidson, W Ham; Mr. Darville, Buntingford; Dr. Delaney, Stratford; Mr. Ed St. Clears; Messrs. Eason and Son, Dublin; Mr. Fiske, Maidsto Mr. Gwynne, Bangor; Mr. Gilyard, Bradford; Messrs. Hewlett Son, London; Mr. Holst, Bath; Mrs. Hitch, Hastings; Mr. Hen co. Armagh; Mr. Hughes, Pwllheli; Mr Hedden, Bideford; Hatton, Edenbridge; Mr. Hale, Chesterfield; Messrs. Hooper Co., London; Mr. Hornibrook, London; Mr. Illingworth, Acc ton; Mr. Jones, Penygroes; Mr. Joyce, co. Donegal; Mr. Kit Rockheave; Messrs. Keen, Robinson and Co., London; Mr. Ll Ammanford; Mr. Lawrie, Weymouth; Mr. Leech, Bury St. Edmu Mr. Munnicliffe, Gosport; Mr. Myers, Birmingham; Messrs. M and Son, London; Mr. Merry, Hemel Hempstead; Messrs. Mayth Biggleswade; Dr. Mason, Pontypool; Mr. Norman, Buckfastlei Mr. Powell, Brynmawr; Mr. Robinson, Westmoreland; Mr. Sch Morley; Mr. Spicer, Chard; Mr. Sprott, Penrith; Messrs. Stent Sons, Guildford; Mr. Shearer, Northumberland; Messrs. Stalend and Renshaw, London; Mr. Shannon, Consett; Messrs. Steel Jones, London; Miss Sprigg, London; Mr. Tooth, Croydon; Mr. T Montreal; Mr. Thin, Edinburgh; Mr. Taylor, Mexborough; Mr. T Minchinhampton; Mr. Ubsdell, Buckfastleigh; Rev. Mr. Wel Crewkerne; Mr. Williams, Hanwell; Mr. Watt, London; Dr. Wo Douglas; Dr. Whitla, Belfast; Miss Wemys, Norfolk; Mr. Willi St. David's; Dr. Waterhouse, Rotherham; Mr. Williams, Angles Mr. Webster, Whitby; Col. Wyndham, Somerset; Aliquis, Lond Ajax, London; A. H. L., London; Arthurus, London; B. C., Lond Class, Edinburgh; Crux, London; Cash, London; Counties Asyl Carlisle; Dagonet, Bristol; Doctor, Ashford; Doctor, Tunbri Wells; Devon, London; E., Clapham; E. C., Hyde-park; F. C. Morecambe; F., London; F. R., Newcastle-on-Tyne; Guy's, Gi hill; G., London; Gamma, London; Hamilton Association, Lond J. H., London; L. & M., London; L. L., London; Medicus, Kenn ton; M. H., Oldbury; M. S., Birkenhead; Mutual Life Assura Society, London; M., London; M., Plymouth; M. B. G. C., Lond Nat, London; National Life Assurance Society, London; Oxfo London; Orson, London; Oxon, London; P. K., Exeter; Practi London; Practitioners, London; R. Chemist, London; Sartori Leicester; Sphen-Ethmoid, London; Secretary, Royal Hospital Women; Sesame, London; Thesis, London; Theta, London; Un Assurance Society, London; Urbanus, London; Victoria Carri Works, London; Viator, London; Vendor, London; Veritas, Lond W., Redcar; X. X. X., London; X. Y. Z., London.

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Lecture
ON
DROPSY WITH KIDNEY DISEASE.

Delivered at King's College Hospital,

BY NESTOR TIRARD, M.D. LOND., F.R.C.P.,
PHYSICIAN TO KING'S COLLEGE HOSPITAL AND SENIOR PHYSICIAN TO THE EVELINA HOSPITAL FOR SICK CHILDREN.

GENTLEMEN,—Cases of dropsy associated with some form of kidney disease are very commonly under your observation both in our wards here and at the Evelina Hospital, and they never fail to afford interesting subjects both for speculation and for treatment. The present juncture appears to me to be an appropriate one on which to address you upon this subject, as you will have noted from the medical journals that the whole question of the connexion between dropsy and kidney disease has recently been under review at the Royal Medical and Chirurgical Society. The views there expressed I propose to criticise later, after a brief consideration of the clinical aspects which you can all verify by direct observation.

Dropsy is met with in the course of very various diseases, and the ultimate explanation of the condition seems to be incapable of being reduced to any single general law. In a previous lecture[1] I dealt mainly with the explanation of dropsy associated with heart disease, but incidentally referred to the probability that many cases of dropsy with chronic kidney disease were to be ascribed to a similar chain of events. This view has since been confirmed by many observers; and in the course of the debate at the Royal Medical and Chirurgical Society it was interesting to note that many of the speakers referred one form of renal dropsy to cardiac weakness, indicated by dilatation and failure of strength. One of the main contentions in my former lecture was that probably this failure of strength had been too much neglected in the estimation of the ultimate causes of cardiac dropsy, while the theory of backward engorgement had been, in my opinion, pushed too far, although the impeded flow of blood through the veins undoubtedly had a large influence in the causation of dropsy, inasmuch as it would account for the diminished reabsorption of fluid through the lymphatic system. Still, when this lecture was written I was careful to indicate that all forms of renal dropsy were not readily explicable by any single theory, since I was convinced that under this apparently simple term more than one set of circumstances contributed to the result.

Viewed from a clinical aspect, there can be no doubt that renal dropsy occurs in two very distinct forms. The first, marked by general œdema, is the variety met with in cases the features becoming absolutely devoid of expression. The œdema of the extremities renders movements difficult and clumsy, and the absolute bulk of the patient appears to be greatly increased. That the œdema is not confined to the subcutaneous tissues is often evidenced by some increase in the rate of respiration, which indicates a coincident œdema of the lungs, and which may be attended by cough and scanty expectoration. Another very characteristic feature of this *acute form of dropsy is to be found in the extreme condition* of pallor all over the surface of the body—pallor which appears to result more from the œdematous condition of the skin than from any profound alteration of the blood-colouring matter.

Curious cases of post-scarlatinal dropsy without albuminuria have frequently been recorded. Some are mentioned by Dr. Goodhart in his valuable work on Diseases of Children, and in St. Bartholomew's Hospital Reports Sir Dyce Duckworth reviewed this subject some years ago. This condition had also been noted by Todd in his Clinical Lectures, and by Henoch in his book on Diseases of Children. I have frequently seen children with this anomalous condition at the Evelina Hospital, both in the wards and in the out-patient room. I may say, in passing, that it is generally held that the facts are deceptive, that a very transient form of albuminuria may have been present before the child was brought under observation, or else that microscopic evidence of the nature of the case may be found, even though no chemical reaction may be given. The explanation of these cases is, however, so full of difficulty that I reserve it for future consideration.

Reverting to the more common type of acute general œdema with indications of acute renal congestion, under favourable conditions this form of dropsy passes away as the case progresses. As the renal changes undergo improvement the volume of urine passed increases and the dropsy diminishes proportionately. Sometimes a similar result is attained as a consequence of the employment of hydragogue purgatives and of sudorifics, by which means the amount of fluid in the circulatory system becomes diminished, and hence the return of the effused material is favoured. These changes depend upon the general law that the absolute quantity of fluid in the vascular system is practically kept at a constant quantity, and that drain from one part of the system is speedily equalised by absorption from another. Mere diminution of dropsy is, however, not to be regarded as indicative of complete restoration. The quantity of urine eliminated may be increased and the dropsy may diminish, even though examination of the urine may show, by the presence of albumen and by its microscopic characters, that the case is gradually becoming chronic. Dr. Dickinson considers that this diminution of dropsy is to be looked upon as the result of some change in the capillaries as well as of hypertrophic changes affecting the arterioles by which the increased tension is combated. He assumes a conservative change in the arterioles as the explanation of the improvement so far as the dropsy is concerned.

The effusion begins quite as often in the feet and legs as in the face; it is commonly slight and partial, but sometimes excessive and general. When the heart or liver is diseased, ascites and œdema of the legs become disproportionately prominent. The effusion is apt to change its seat capriciously, and it comes and goes from time to time. Sometimes it disappears totally for months and then returns again. More frequently, after a subsidence of the general dropsy, œdema lingers obstinately in one or two places—over the flat of the tibiæ, about the ankles, beneath the eyelids, under the conjunctival membrane or about the genitals. The presence or absence of dropsy generally, but by no means always, corresponds with the abundance or scantiness of the urine; but it has no relation to the amount of albumen." This passage has an important bearing, not only upon Sir William Roberts' experience of the relative frequency of dropsy with the smooth large and with the granular contracted kidney, but it also answers in advance some of the arguments adduced by Dr. A. Haig.[3]

Turning now to the theories suggested in explanation of renal dropsy, it may be convenient to deal first with those of Dr. Dickinson. He indicated that there were two modes by which an exudation from the capillaries might lead to dropsy. If too much of this exudation was poured out or too little carried off, dropsy resulted; but in his latter remarks he appeared to confine his attention entirely to the former mode, although the teaching hitherto has been that both modes must be in operation simultaneously. Dr. Dickinson attributed the association of œdema and increase of tension in nephritis to "some condition of the capillaries due to abnormality of blood which both hinders its passage and promotes transudation." In considering the transition from the acute to the chronic stage he noted the contradiction of the diminution of dropsy with further increase of arterial tension, and he maintained that the cardio-vascular change of advancing renal disease is the antagonist of dropsy. To make the contrast more complete, he said that there is "much dropsy with slight hypertrophy in nephritis, little dropsy and much hypertrophy with the granular kidney, so long as the heart remains undilated; and, finally, on the stretching of the heart, increase of dropsy and often pulmonary apoplexy." Somewhat later he makes the admission: "What the nature of the capillary obstruction is must be left undeclared. Changes in the blood may affect its passage in many ways. Fluids of different sorts pass through inanimate tubes with different degrees of facility, besides which the capillaries, though not muscular, have been demonstrated to be contractile." It will be seen that, so far as acute nephritis is concerned, our knowledge of the ultimate causation of dropsy has not been materially advanced. That a change in the nature of the blood is a prime factor has long been conceded, but it has sometimes been thought to result in filtration or transudation under pressure, sometimes in diffusion or osmosis, as Dr. Dickinson himself points out. It is of course conceivable that by some capillary contraction, excited by the toxic influence of the blood, the pressure within the capillaries should be raised, the blood current retarded, the nutrition of the capillary wall impaired and thus transudation might be favoured. All this, however, though interesting, is mere speculation, and its force seems to be confined almost solely to the early stages of acute nephritis. These theories will not explain the condition of dropsy as it occurs in the course of a case dependent upon the smooth, large kidney, and the theories become least satisfactory when by them we attempt to explain the way in which the effusion "changes its seat capriciously" or "comes and goes from time to time."[4] The most convincing portion of Dr. Dickinson's paper on Renal Dropsy is that in which he accounts for the diminution of dropsy in cases of granular kidney, where he submits the view that the constriction of the smaller arteries must cut off the blood from the capillaries and presumably lessen the pressure in them and exudation from them.

Turning now to the views expressed by others in the course of debate upon Dr. Dickinson's paper, Sir George Johnson believed that "renal dropsy was the result of an active vital secretory process consequent on an accumulation of various morbid fluids and solids in the blood," and he summed up his views shortly as follows: "That the arterioles could impede or arrest the circulation; that there was no evidence that the capillaries possessed a similar power that there was no evidence of an increase of capillary pressure in renal dropsy, but probably that it was diminished; that it was difficult to explain effusion through capillaries mechanically, and that renal dropsy was best explained by regarding it as the vital act of the endothelium, excited to eliminate certain noxious solids and fluids from the blood." Dr. Pye-Smith followed on somewhat similar lines, considering that renal dropsy might have some connexion with the secretory power of the capillary endothelium, and he quoted Heidenhain's experiments in proof of the possession of such an active selective influence by the epithelium. Arguing from the distribution of fluid in acute renal dropsy that it was not subject to the action of gravity, Dr. Pye-Smith thought that it was probable that the condition was "not a dropsy at all, but an inflammatory effusion," and a little later he said he believed that the anasarca should be regarded as an "active inflammatory change in the connective tissues." It is difficult to harmonise this view with the ordinary sequence of events in other active inflammatory changes in the connective tissues; hence, although the suggestion is attractive and novel, this theory scarcely seems to be likely to gain many adherents. Dr. Douglas Powell thought that dropsy of renal disease was osmotic, and intended to compensate for deficient kidney secretion, increasing in proportion to the renal insufficiency and decreasing as it was re-established. Dr. Broadbent found so many points of resemblance in renal and cardiac dropsy as to suggest that there must be a similarity of causation, and this led him to look primarily for some hydraulic cause for renal dropsy. He thought Dr. Dickinson had probably furnished the most satisfactory explanation of renal dropsy yet formulated, and, without accepting it definitely, he was greatly disposed to regard it as in all probability the correct explanation. Without trenching upon the further discussion at the Royal Medical and Chirurgical Society (which you will find fully reported in THE LANCET of April 30th, 1892, and May 14th, 1892) I may say that I have put before you the main points of difference rather than those upon which common ground might be claimed. As I have before said, there was practical unanimity about the cardiac nature of the dropsy sometimes seen towards the termination of cases of granular kidney. The frequency of acute dropsy with acute nephritis also received full consideration, but the dropsy of the large white kidney was almost left out of account, in spite of its greater frequency when compared with the dropsy seen with the small granular kidney. Of the clinical features there can be no dispute; they are matters of common observation. The difficulty lies in the explanatory theories. Dr. Dickinson assumes capillary obstruction, but does not define its nature. Sir George Johnson proposes an active vital secretory process. Dr. Pye-Smith suggests an active inflammatory change in the connective tissues, and Dr. Douglas Powell looks to compensatory osmosis. This brief summary will show you how far the question is removed from a final solution, and will be enough, I trust, to prove that the subject may still be regarded as one waiting further observations and elucidation.

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[3] THE LANCET, July 9th, 1892, p. 82.

[4] Sir W. Roberts: Urinary and Renal Diseases, p. 453.

RICHMOND WATER-SUPPLY.—It is stated that a welcome addition to the water-supply of this borough has been discovered, in the course of the construction of two wells. It is estimated that this "find" will save the ratepayers a sum of between £2000 and £3000.

THE following shows the number of patients in the several fever hospitals of the Metropolitan Asylums Board on Sept. 6th:—At the Eastern Hospital there were 409 patients suffering from scarlet fever, 71 from diphtheria, 1 from typhus and 35 from enteric fever; the North-Western Hospital had 395 scarlet fever patients, 80 diphtheria and 20 enteric fever; the Western Hospital were accommodating 312 scarlet fever cases, 40 diphtheria, 3 typhus and 9 enteric fever; at the South-Western Hospital 314 scarlet fever patients were on the books, whilst the number of diphtheria and enteric fever cases was 60 and 21 respectively; the South-Eastern Hospital had 397 cases of scarlet fever, 22 of diphtheria, 1 of typhus and 6 of enteric fever; the Northern Hospital contained 725 cases of scarlet fever and 20 cases of enteric fever; and the Gore Farm Hospital 714 patients suffering from scarlet fever. Only 5 cases of small-pox are recorded as being in hospital on this date, these being on board the hospital ship *Atlas*.

CLINICAL NOTES ON LEPROSY IN KASHMIR.

By ERNEST F. NEVE, M.D., F.R.C.S. Edin.,
SURGEON TO THE MISSION HOSPITAL, JOINT HONORARY SUPERINTENDENT TO THE STATE LEPER ASYLUM.

During the past eighteen months 152 lepers have attended the Mission Hospital as out-patients. Of these, 116 were cases of anæsthetic leprosy, 89 of whom had no tubercles. Sixty were admitted as in-patients to the Kashmir State Leper Asylum and were under observation for a time. The following is an analysis of the most marked symptoms. I have endeavoured to obtain some light (1) on the earlier phenomena of anæsthetic leprosy, and (2) on the relation of symptoms and signs to the period or age of the disease.

TABLE I.

No.	Age.	Years ill.	Earliest symptoms or signs observed by patient.
1	20	1½	Anæsthesia of extensor surface of both feet and arms.
2	50	2	Ditto of both feet.
3	22	5	Eruption all over body, followed by anæsthesia.
4	20	1	Ulcer under metatarso-phalangeal joint of great toe.
5	40	3	Anæsthesia of right gluteal region and right ankle, outer side.
	50	6	Ulcer under metatarso-phalangeal joint of both great toes; swelling of left leg.
7	40	1½	Swelling of both feet; no anæsthesia then.
8	20	6	Blisters over inner malleolus and sides of knees.
9	65	6	Burning pain on outer sides of thighs; anæsthesia subsequently.
10	20	3	Feeling of weight in shoulders and limbs; subsequent blisters and anæsthesia.
11	20	½	Swelling of feet and burning sensation; subsequent anæsthesia.
12	30	4	Anæsthesia of feet; blisters; eruption over chest.
13	20	3	Blisters of legs.
14	22	6	Sole of left foot used to get wounded; blisters on outer side of thigh.
15	35	6	Cracks of foot; blisters; subsequent anæsthesia.
16	24	12	Swelling of face; tubercles of cheeks.
17	30	1½	Anæsthesia and blisters on feet and legs.
18	50	8	Blisters on legs.
19	30	7	Anæsthetic patch behind great trochanter.
20	20	½	Blisters on outer side of left leg, then anæsthesia.
21	30	2	Cracks on soles, then anæsthesia.
22	25	3	Blisters on backs of forearms; pains all over.
23	30	3	Anæsthesia all over and blisters.
24	22	15	Anæsthesia of backs of feet and hands.
25	40	7	Swelling of left foot; subsequent anæsthesia.
26	22	5	Patch of anæsthesia at back of neck.

Let us now compare this table with another showing the leading symptoms and physical signs presented by patients who, when observed by the surgeon, had been less than a year ill.

TABLE II.

No.	Months ill.	Symptoms or signs observed by the surgeon in cases recently affected.
1	6	Tubercles on face; shiny skin.
2	4	Anæsthesia of both feet; itchiness of face.
3	2	No anæsthesia; face characteristically altered.
4	6	Anæsthesia; no tubercles; face clear.
5	3	Large pink anæsthetic patch on right hand and forearm; face clear.
6	2	Anæsthesia of both feet; face indurated.
7	6	Swelling of feet; patches of anæsthesia on both legs and on body.
8	5	Burning in soles of feet; no anæsthesia
9	1	Anæsthesia of right hand and foot; face dusky red.
10	4	Small pink tubercles on face; no anæsthesia.
11	1½	Skin swollen and shiny; very little anæsthesia.
12	4	Anæsthesia of scapular region; small tubercles over body.
13	2	Anæsthesia of both legs and abundant tubercles.
14	4	Patches of anæsthesia on different parts of body.
15	2	No anæsthesia; tubercles on different parts of body.
16	2	Large anæsthetic patches.
17	5	Anæsthesia of arms; indurations in gastrocnemius and biceps.
18	2	Anæsthetic patches; ulcer of nose.
19	4	Anæsthesia of outer sides of legs.
20	2	Anæsthetic patches on different parts.

It is interesting to compare the lesions of those who have been only a few months ill with those who have had leprosy

TABLE III.

No.	Years ill.	Physical signs observed in patients more than five years ill.
1	14	Anæsthesia of both feet and hands; ulcers on both.
2	6	Anæsthesia; one foot swollen.
3	13	Anæsthesia; ulcer on sole of foot.
4	10	Anæsthesia; ulcers on both heels.
5	6	Anæsthesia; ulcer on sole of foot.
6	7	Anæsthesia; nose depressed from antecedent necrosis.
7	7	Anæsthesia; blisters; face very little changed.
8	7	Anæsthesia; ulcers of feet; depressed nose; blisters.
9	7	Anæsthesia; necrosis of phalanges; blisters.
10	6	Anæsthesia; scars and ulcers of face; depressed nose.
11	15	Tubercles of face, larynx and body; general ulceration of limbs.
12	6	Anæsthesia; ulceration; loss of phalanges.
13	6	Anæsthesia; discolouration of forehead; occasional blisters. (Mild case.)
14	6	Tubercles on face, pharynx and body; anæsthesia.
15	10	Anæsthesia; swelling of hands.
16	6	Anæsthesia of legs and arms.
17	14	Anæsthesia of both feet; loss of phalanges.
18	8	Anæsthesia of hands and feet; ulcer of sole of foot.
19	14	Anæsthesia of hands and feet; loss of phalanges.
20	7	Anæsthesia; ulcer of sole of foot.

We see, then, that in patients more than five years ill anæsthesia is almost invariably present. It is usually more profound than in the earlier stages. Then ulcers, especially the perforating ulcer of the foot, bone affections of the nose, fingers and toes, and also of the tarsus—these are characteristics of advanced leprosy, and they are associated with superficial ulcers and with scars and cicatricial thickenings of most of the tissues of the body.

With regard to cases in the earlier stages and the history given by patients, we notice that the following are apparently early symptoms:—Eruptions, swelling, sensations of pain, heat or itchiness, blisters, ulcers and anæsthesia. I say apparently, because on closer examination some of these conditions are found to be undoubtedly due to advanced leprosy. Let us examine them briefly.

Eruptions, swelling, sensations of pain, heat or itchiness are often associated. I shall not discuss tuberculous leprosy here. The least advanced case of leprosy which I have seen was a patient who presented a slightly raised, indurated, dusky-red patch on his left cheek. In another there was duskiness of the face with some thickening of the skin of the nose. Below the malar bones were slightly raised dusky-red patches. The lobes of the ears were a little thickened. This patient developed well-marked herpes zoster of the right side of the thorax while under observation. Pain, burning sensations and swelling are prominent early symptoms, and occasionally hairs may drop out early in the course of the disease.

D. M——, aged thirty, six months ill. The hairs of his eyebrows are absent on the outer aspects and scanty at the inner; his whole body, including the face, is red, and there is inflammatory œdema of the skin, especially marked in the extremities. In places there is pitting on pressure. This condition is associated with great pain, burning sensations and fever. There is tenderness of nerve trunks on pressure. Another patient, S. C——, has had periodic attacks of this nature, in the last of which patches of small wheals appeared on the body and limbs.

We have, then, here two classes of phenomena. One a skin affection of a leprous nature, probably a specific lesion—viz., the raised, red, indurated patches. Later in the disease these patches subside, and may even almost disappear, leaving traces only of thickening, irregularity and pigmentation. They are probably related to (leprous) tubercles, although quite distinct.

The other class comprises the various conditions resulting from leprous neuritis—viz., inflammatory œdema with fever and sensations of pain and heat. Each attack of this nature is apt to be followed by extension or intensification of anæsthesia. Such attacks are recurrent, and most lepers are liable to them.

If the back of a leper be examined it is often found to be the seat of a macular eruption. The following cases are illustrations:—

S. M——, aged twenty-one, four months ill. On the back there is a very faint mottled and ringed eruption consisting of circles the size of a florin or larger, with dusky brown or reddish margins.

M. C——, aged thirty-one, a more advanced case, three years ill. The whole of the back was covered with pale circular patches not anæsthetic, and edges not pigmented, but shown up by surrounding dark skin.

K. R——, aged thirty-two, five years ill; condition still more pronounced. The whole of the back was covered with large pale patches, especially the lumbar and sacral regions. The margins of these patches are circles, with the convexity towards the surrounding healthy skin. In the dorsal region there is an island with loss of pigment and similar convex margins. The skin is not thickened, and there is no anæsthesia.

In some cases, however, I have found these patches anæsthetic. When the margins of the circles are strongly pigmented the appearance of the patient is very striking. Sometimes the whole body and extremities are affected in this way. The condition is also sometimes associated with tuberculous leprosy. It is, I think, to be attributed to interference with nutrition resulting from leprous neuritis. Such lesions are atrophic. Sometimes the opposite condition is present.

J. B——, aged forty, sixteen months ill. Over the lower part of the sacrum there is a darkly discoloured patch the size of the hand, with overgrowth and a desquamating condition of the epithelium, but no anæsthesia. I have referred elsewhere to leprous ichthyosis.[1]

Blisters.—These are of two kinds. In early leprosy, and also to a less extent later on, blisters of a trophic variety may form. Their favourite seat is the ulnar side of the hand or wrist and the outer side of the foot or ankle. The other variety of blister is due to an irritant, either heat, cold or friction. Of course the absence of sensation is a very frequent cause of burns. Lepers burn their hands while cooking their food or warming themselves. Exposure to severe cold acts similarly. The feet are apt to become blistered from this cause. Friction blisters occur especially on the outer sides of the body and near the knees or elbows. This latter class of blisters is almost invariably associated with advanced leprosy. The trophic blisters have usually no red areola. They are circumscribed and heal readily. In two cases there was no anæsthesia of the part where they appeared. The "irritant" blisters, on the other hand, are generally on anæsthetic sites, and they are apt to leave troublesome sores.

Ulcers.—These are not at all characteristic of *early* leprosy. They occur in close relation to anæsthesia. When a foot is anæsthetic a friction ulcer often appears under the metatarso-phalangeal joint of the great toe, the seat of the greatest strain in walking. Ulcers may also be present at any of the three points in the foot on which the weight of the body rests. Then there is the peculiar perforating ulcer of the sole. This is characteristic of advanced leprosy. It is perhaps dependent upon posterior spinal sclerosis. (Impairment of knee and ankle reflexes is common in lepers. Nerve stretching facilitates the healing of the perforating ulcers. In these respects a similarity to locomotor ataxia exists; but the likeness stops here, for I have never seen a leper with ataxic gait.) Ulcers in connexion with diseases of the bones and joints of hands or feet are common. The cracks on the soles of the feet, of which some lepers complain, are, I think, chiefly the result of walking in the snow. But they are common enough amongst the non-leper agricultural population who have to work in wet, muddy rice fields.

Anæsthesia.—This is the most prominent feature of leprosy in Kashmir. It is often found very early in the course of the disease (see Tables I. and II.), and it is almost invariably present in the later stages, where it is also profounder and more extensive. It is a nerve lesion the result of sclerosis following neuritis. Extensor surfaces are more liable than flexor to anæsthesia, but anæsthetic patches may occur at any part of the body. Often the skin of such patches is paler than elsewhere, but sometimes it is quite unchanged, and sometimes patches of pale skin are not anæsthetic. M. W——, aged fifty, has two pale patches of skin: one below the scapula on the right side is not anæsthetic; the other on the right side of the lower lumbar region is anæsthetic. W. M——, aged forty, three years ill, has an anæsthetic patch an inch and a half square behind the left acromion, the skin of which is quite unaltered. Another peculiarity of this anæsthesia is that it is rare for one to be able to map it out according to the anatomical distribution of any one nerve. It is patchy and capricious in its manifestations. I think this is a point in favour of its central origin. Indeed, most of the evidence points to a poison which attacks the central nervous system. A therapeutic desideratum is some drug which will act as an antidote to that poison in a more satisfactory way than atropine does to tuberculin. In its later stages leprosy is not curable. There is too much scar tissue. It may be arrested; symptoms may be greatly alleviated. More than three hundred nerves have been stretched in this hospital for the relief of anæsthesia and ulcers; but this is an operation for relief, not cure. Like tuberculosis and syphilis there is a stage in leprosy when the conditions of cure no longer exist.

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[1] THE LANCET, Nov. 16th, 1889.

LARYNGEAL PARALYSIS IN INFANTS.

BY W. ROBERTSON, M.D. GLAS.,

SURGEON TO THE THROAT AND EAR HOSPITAL, NEWCASTLE-ON-TYNE.

WITHIN the last five years I have met with from time to time cases of a disorder in children, of ages varying from three weeks to eighteen months, to which the above term may be provisionally applied. These cases—six in all,—of which I have notes, survived and got rid of the disease, with one exception, and in this case a fatal termination was brought about through exposure to the east wind at a coast resort. A brief clinical account of one or two of these cases will illustrate the condition to which I refer.

CASE 1.—C. H——, aged two years, was brought to me during June last, suffering from noisy, difficult and prolonged inspiration; expiration quick and easy; voice intact. There was slight cyanosis, increased on exertion, as was also the inspiratory distress. The ribs were much deformed, the lateral regions of these being indrawn. The epigastrium as well as the soft parts above the clavicles were retracted during inspiration. The larynx was observed also to move unduly during inspiration. Examination of the throat demonstrated an extreme state of granular pharyngitis extending to the vault. The statement given by the mother was that the child began to suffer from what the doctor called "chronic croup" (in part a good descriptive term, for the condition resembled superficially that of a child in moderate distress from typical croupous breathing) after some ill-defined pulmonary attack when it was six months old. Since then, when the symptoms were not so bad as now, the child has been a continual source of anxiety, more especially during the night and morning just after wakening, when great respiratory difficulty was generally experienced, a discharge of mucus giving great relief. No laryngoscopic examination could be made. From the examination that could be made of the chest this was normal, the stenotic murmur, however, obscuring to a great extent the vesicular. The child was put upon bromide of ammonium; a nasal alkaline spray and a 2 per cent. solution of resorcin in mineral oil to be dropped into the nose. A week or two of this treatment improved matters but slowly. On July 17th, 1891, I intubated, retaining the tube for one hour. This procedure was followed by more decided improvement. Shortly after this I scraped out the post-nasum with the finger-nail and recommended a continuance of spray and resorcin. On the 25th the child was intubated again and the tube retained for two hours, during which the child slept for the most part and regained a more natural colour. On Aug. 28th the child had greatly improved. The inspiratory dyspnœa had almost entirely disappeared. He was able to rest well at night and had no difficulty whatever on awakening.

CASE 2.—J. N——, aged three weeks. This infant when first seen was found to be suffering from somewhat acute inspiratory dyspnœa dating from a few days after birth, and most pronounced at nursing periods. The inspiration was noisy, so that it could be heard in the next room. Examination of the throat showed a thickened granular condition of the pharynx mucosa. There was no fever or enlarged glands about the neck. The child was fairly nourished. The treatment consisted of bromide of ammonium, with the employment of nasal spray and resorcin drops for the nose. These remedies were used twice daily for one month, when practically the child was well. Subsequently the remedies were used thrice weekly for three months. I saw this child nine months afterwards and found it remarkably plump and well. The mother states, however, that respiratory difficulty of the above character now and then in a slight degree troubles the child.

CASES 3 and 6 resemble the above so much that detail is unnecessary.

CASE 4.—G. A. S——, at the age of six months, began to suffer from symptoms noted in the above series of cases, their severity increasing as time went on until he was one year old, when these were varied by the occurrence of convulsions. There were the usual nightly and morning exacerbations. The child recovered. At present the child suffers from post-nasal growths.

CASE 5 displayed the symptoms described in the above. Through an unadvised stay at a coast resort and during the prevalence of east winds the child caught cold and shortly succumbed.

These cases will illustrate the condition in question as well in its severer as in the milder forms met with. They also illustrate the efficacy of well-directed treatment. It will be observed from the above that the condition in question is a state of persistent dyspnœa lasting over a considerable period and exclusively affecting inspiration; that the dyspnœa, mild at first, increases in time, as in Case 1, to a state of dangerous asphyxia. Judging from the character of these laryngeal symptoms bilateral improvement of the dilators of the glottis suggests itself, which, when it becomes grave, is succeeded by, we may suppose, secondary contraction of the unopposed adductors. The power to cough, the comparatively intact phonation, the length of time over which the disease extends, and the deepening of symptoms as that goes on differentiate the condition from affections of the abductors—e.g., spasm. These same qualities equally disprove the existence of, e.g., papillomata. (Case 1 was to have been operated on for this before I saw it.) Not one of these cases could be referred to this condition, for in such it is recognised that there is a great frequency of alteration of voice. Diphtheria in every case could be eliminated. In none of the cases were there noticed evidences of cervical or thoracic tumour or any pressure on the vagi or recurrents. It would seem, therefore, that the only probable explanation of the phenomena is to attribute these to a temporary bilateral abductor paralysis. As to the etiology of this, the associated diseased condition of the post-nasum and pharynx observed in every case demands attention. The age also must be taken into account. It is justifiable to suppose that irritation set up in these regions is transmitted to the medulla, there exciting and exhausting the accessory nucleus, and that this leads up to impaired nervous energy to the abductors. Another point is that catarrh, equally possible, may in such cases interfere with the function and nutrition of the muscles in question. In the earlier cases met with I relied for treatment principally on bromide of ammonium, tepid sponging, &c., but of late have treated more vigorously the post-nasal and laryngeal conditions, and with the best results when the cases are not met with in the earlier phases of the disease. Where granulations are felt in the post nasum these are curetted or otherwise destroyed. In severe cases like Case 1 I should at once intubate, because, apart from the relief to respiration for the time being, the insertion of the tube seems to have a rousing effect on the general musculature of the larynx. It may be supposed to undo any secondary contraction that may have supervened during the course of the malady, if this has supervened long enough to allow of secondary contraction of the constrictors to have taken place.

Newcastle-on-Tyne.

ON THE

INFLUENCE OF NASAL STENOSIS ON THE GENERAL HEALTH.[1]

BY W. SPENCER WATSON, F.R.C.S. ENG., M.B. LOND.

THERE is good evidence that many forms of disease, not strictly of nasal origin, have been cured, relieved, or prevented by treatment successfully directed against nasal stenosis. This I take as my text; and though I may not be able to prove the statement categorically, I trust that I shall be able to show that it is well founded and sufficiently accurate to form a trustworthy guide in treatment.

It may be well at the outset to give a brief epitome of what is known as to the functions of the nose as a part of the respiratory apparatus.

1. The inspired air is warmed to the temperature of the body within 1° or 2° F. of that temperature.

2. The inspired air is moistened by watery vapour exhaled from the nasal mucous membrane.

3. The inspired air is filtered and to a great extent freed from foreign particles and micro-organisms. Some of these become adherent to the vibrissæ and some to the mucous surface, and in time are extruded with the mucus; the more irritating vapours or micro-organisms exciting a free flow of fluid mucus, which in extreme cases is expelled by sneezing or reflex cough.

4. The temperature of the blood is lowered by the evaporation from the pituitary membrane.

5. The expired air contains some carbonic acid (an appreciable trace), due to the interchange of gases in the nose independently of those due to oxidation in the lungs. There is also probably an evolution of other animal products from the same source.

These being the chief functions of the nose as a part of the respiratory tract, what modifications or interruptions are brought about by stenosis? This latter condition may be temporary or permanent, partial or complete, and the effects must vary according to each variety or phase of the obstruction.

a. Temporary stenosis occurs in acute rhinitis of any kind, in simple chronic rhinitis and in congestive irritation of the pituitary membrane from any cause—e.g., that of the presence of a foreign body, of rhinoliths, or of sequestra of bone. The turbinated bodies are the parts more especially liable to swelling under these circumstances by reason of the structure of their submucous erectile tissue. The stenosis due to turgescence of this part of the membrane is distinguished from that due to hypertrophy, partly by the clinical history of the case, but more precisely by the appearance and behaviour of the swollen part, which dimples easily when pressed upon by a probe, and also by the fact that it is almost always speedily reduced in extent and bulk by the application of cocaine.

b. Permanent stenosis is chiefly the result of chronic rhinitis with hypertrophy, and often of intra-nasal growths and polypi. Distortions and malformations of the septum, naso-pharyngeal growths, adenoid vegetations of the naso-pharynx, enlargement of the tonsils, thickening of the soft palate and congenital and traumatic deformities are the more common causes of permanent stenosis.

c. When the obstruction is only *partial*, as is often the case, the breath channel being narrowed only, but not occluded, there is the obvious difficulty of deciding in a given case whether the supposed remote effects such as headache, migraine, asthma, cough, laryngeal spasms, dyspnœa and secondary changes in the larynx, trachea and bronchi may not be due to irritation rather than to obstruction. A slight amount of swelling of the turbinates brings them or some point of their surface in contact with the septum, and as this part is especially sensitive, and rendered still more so by inflammatory changes, the local irritation thus induced may account for reflex irritation of the deeper parts of the respiratory tract. In some cases it is possible to put this to the test by touching with a probe the suspected area, and if, when this is done, the reflex action is induced, we have some evidence that irritation is more prominently at work than stenosis. The use of cocaine locally applied will also be an aid to diagnosis in the same direction. In the condition of hypertrophy there is no shrinking of the swollen parts as in the case of mere turgescence, and hence any marked relief of the symptoms following the use of cocaine is an indication that there is an area or point of excessive sensitiveness the irritation of which produces reflex action. When this is the result of these tentative measures much benefit is often derived by reducing the bulk of the hypertrophic membrane or growth. The application of the electric cautery or of a corrosive acid to the part will be generally sufficient, but if the obstructing part is very far back, and involves (as it often does) the posterior extremity of the inferior turbinate, the cold-wire snare or my own ring-knife will be the preferable methods for reducing its bulk.

I here exhibit a drawing from a typical specimen of chronic hypertrophy of the inferior turbinate occurring in a young gentleman whose life was rendered very uncomfortable by its presence. He was sometimes seized with fits of choking during his meals, and was always in terror from the feeling of obstruction. His mental condition was so depressed that his friends became extremely anxious about him. The operation by the cold-wire snare was followed by complete relief. In this case there was a difficulty in deciding as to how far stenosis alone or stenosis with hypersensitiveness of the parts afforded the best explanation of the symptoms. There was no obstruction of the other nostril except during the attacks of acute catarrh, which were very frequent, but the *nostril (right) from* which the growth was removed was completely blocked by it. This case was one of chronic hypertrophic rhinitis. In this form of disease not only is the epithelial layer thickened, but the cavernous erectile tissue covering the turbinated bones and sometimes the submucous covering of the septum become permanently distended and lose the power of recovering their normal bulk. The glands occupying the submucous layer are also hypertrophied, and the surface of the membrane becomes corrugated and raised into folds or villous prominences, the posterior thirds of the middle and inferior turbinated bodies being most frequently affected in this way. The anterior extremity of the inferior turbinate and occasionally the anterior part of the middle turbinate, when hypertrophied, are generally uniformly swollen, and *when pressed by the probe do not recede.* Sometimes the anterior parts have also wart-like outgrowths on their surface, but these are not frequent and occupy only one or two spots or surfaces, differing from those on the hinder parts, where they are uniformly distributed over a considerable surface.

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[1] Paper read at the Medical Society of London.

Symptoms.—The symptoms are those of stenosis more or less complete. In the advanced cases the breath channel may be completely occluded; in less advanced stages one or both nostrils may admit of a forced snuffling respiration. There is a constant flow of mucus from the anterior nares and a backward flow into the naso-pharynx, where the viscid secretions form adherent crusts, which are only detached with difficulty and much "hawking" and coughing. We have, *in addition,* the usual distress of *stenosis, the* habitual oral breathing, the snoring and distress of breathing at night, the nasal voice, impairment of hearing, of smell and taste, and asthmatic attacks, with occasional implication of the larynx. The uvula and velum become thickened and the elongation of the former gives rise to chronic irritative cough. The breath is sometimes offensive from the accumulation of the mucous secretions in the naso-pharynx, and there may be chronic pharyngitis due to the same cause.

The following cases are good illustrations of chronic hypertrophic rhinitis and of its effects on the general health.

CASE 1.—Mrs. E——, aged fifty-four years, very tall and stout, and with symptoms of *stenosis and prominence of* eyeballs; great mental depression and fainting fits; much difficulty of breathing at night; extensive hypertrophy of both inferior turbinates. Ether was given and the inferior turbinates removed entirely from end to end at two operations. Great relief resulted from this treatment. In the course of the next few months caustics were applied and subsequently vulcanite plugs *for reduction of the hypertrophy of the middle* turbinates. Much satisfaction was expressed by the patient. The improvement remained for several years, but whenever there were threatenings of a return of stenosis the plugs were resorted to, with much relief on many occasions. Within a few weeks (eight years after the first series of operations) *this lady* had a recurrence of the old symptoms due to growths from the outer wall of the right nostril. I removed these under the influence of cocaine by means of the cold-wire snare and the result has been perfectly successful, the nostril being now quite free from obstruction. The growth was polypoid with glandular hypertrophy and arose from the *middle turbinates. It is instructive* to remark that though the first operation seemed in this case to be very free, yet it is evident from the sequel that even the total extirpation of the inferior turbinated bone was insufficient and that it would have been better to have operated still more freely in the first instance.

CASE 2.—A gentleman's gardener aged thirty-five years. There were symptoms of stenosis for six years. Operations were undertaken for polypus, but without relief. A fibrinated outgrowth was seen from the anterior nares on the anterior third of the inferior turbinate. No posterior rhinoscopic view was obtainable, but by digital exploration soft growths were felt protruding into the pharynx from choanæ. By ring-knife operation (under anæsthesia) the growths depicted in the drawings were removed at two operations (Figs. 1, 2, 3 and 4). Three years afterwards the patient remained perfectly free from nasal trouble and immensely improved in health, the commencement of his relief dating from the time of the operations, and having steadily continued ever since.

CASE 3.—Mr. H——, aged fifty years. Symptoms of aggravated stenosis had existed for years, with cleft palate. A good rhinoscopic view was obtained of growths on the hinder extremities of the inferior turbinates, complicated with nummular polypi. Cocaine (20 per cent. solution) was applied freely and thoroughly. Numerous polypi were removed by the cold-wire snare. Ring-knife operation was performed on the inferior turbinates. A portion of the hinder extremity of the inferior turbinate of the *right nostril* is shown in Fig. 5. The size of this growth is somewhat exaggerated in the drawing: *it was, however,* extraordinarily large. The results of the treatment were excellent and lasting. The polypi removed were some of them nummular in shape.

FIG. 1.

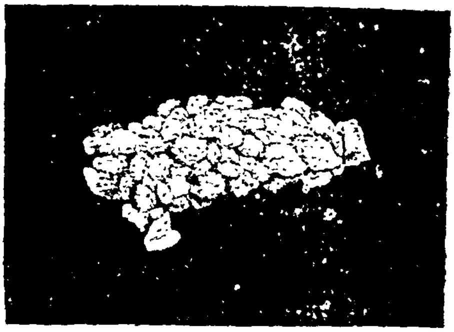


FIG. 2.

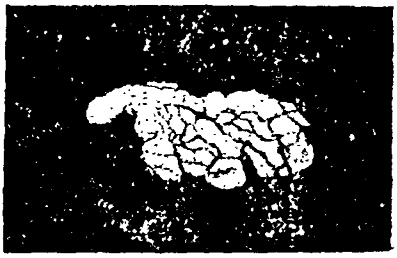


FIG. 3.

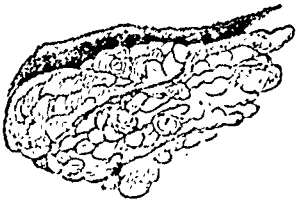


FIG. 4.

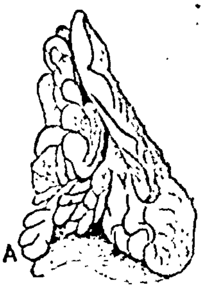
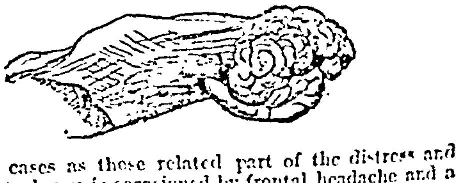


FIG. 5.



In such cases as these related part of the distress and nervous disturbance is occasioned by frontal headache and a feeling of distension due to retained secretions in the sinuses and ethmoidal cells. The pressure of the intra-nasal growths obstructs the orifices of the antrum, the frontal and sphenoidal sinuses, the lacrymal sac and nasal duct, and the general hypertrophy *of the membrane* may even lead to their permanent closure and a large accumulation of mucus. As a secondary result, sleep is disturbed and the patients wake up from horrible dreams or nightmare. This *deprivation* of natural refreshing sleep leads to general nerve disturbance and migraine and mental depression, so that the stenosis not only impedes free breathing, but at the same time interferes with the functions of the sinuses, and thus gives rise to secondary disturbance of the nervous system.

These complications of stenosis make it the more imperative that any operations for its relief should be thorough and effective, so that free drainage of the sinuses may be quickly established. It is on this account that I think it very essential to perform radical and complete operations at one sitting under a general anæsthetic, and I suspect that our failures are sometimes due to the frequent repetition of partial and incomplete operations such as are recommended by some surgeons who employ the electric cautery for the removal of polypi. Each time a small polypus or portion of a polypus is removed a certain amount of inflammatory swelling is set up, and for a time the *stenosis* is increased. The patient not being under a general anæsthetic, it is impossible (except in the very rare cases of a single polypus or a very limited hypertrophy) to remove all the growths at one sitting, and few patients will submit to the numerous and repeated operations which become necessary when employing this method. The rule should be—(1) when there is complete obstruction with much constitutional disturbance to operate by a single operation under a general anæsthetic; (2) when the obstruction is partial and the symptoms unimportant, the growths being small and easily reached, to operate either by means of the snare or electric cautery, using cocaine and employing the frontal mirror as a guide to the instruments. Except in the simplest and most favourable cases a repetition of the use of the snare or cautery is absolutely necessary. When both nostrils are occluded and buccal respiration is therefore a necessity, the lungs receive the air cooler and drier, and discharge it with a smaller quantity of carbonic acid and animal excretory vapours than is the case in free nasal respiration. Unless there is a compensatory increased activity in the other excretory organs the blood becomes overheated; and as the lungs are embarrassed in their action the excretion of carbonic acid and watery vapour is more and more difficult, until the blood itself becomes overcharged with these products. Irritation of the larynx, trachea and bronchi follows, and in the worst cases bronchitis results. In the generality of cases the effects of stenosis are not so severe.

As to *asthma*, I have only had three in some hundreds of cases of chronic hypertrophic rhinitis. One of my cases of asthma associated with polypi and hypertrophy of the turbinates has been already briefly related.

A Scottish married woman thirty-five years of age had suffered from undoubted spasmodic asthma for eighteen years. When I first saw her about two years ago she had numerous polypi and advanced hypertrophy of the turbinates, but these had been previously discovered, and yet for various reasons no operation had been proposed. Here the asthma seemed to be of a confirmed type, and was, moreover, complicated with vesicular emphysema and frequent attacks of bronchitis. Nevertheless I advised operation, and removed polypi and hypertrophied membrane freely and thoroughly by two operations. The result exceeded my expectations and those of my colleagues who watched the case; for between five and six months there was not a single recurrence of the asthmatic paroxysms, and the general health improved so much that the woman was able to go to work as a domestic servant, though for many years before she had been incapacitated. For some months she was able to do some very hard work, but in April, seven months after the first series of operations, she had a recurrence of her old ailment. I found some broad-based polypi, which I have removed by several repeated operations with only partial relief of the asthma. After the last operation, on Nov. 5th, she had a severe attack of bronchitis and great oppression of breathing with regular midnight attacks, and these were controlled only by the use of eight-grain doses of citrate of caffeine. There [illegible] no attack now since Dec. 10th, but she is

the mucous membrane of the nostril would be to ignore all common experience and the outcome of the most careful inquiries by the most competent observers. The stenosis observed in some of the subjects of hay fever is due to the effects of chronic hypertrophic rhinitis, which is itself a consequence of the repeated catarrhal attacks so characteristic of the disease. This stenosis is a great aggravation of the other symptoms, and much benefit is often derived from operative treatment, as the suffocative attacks are much mitigated by a restoration of free nasal respiration. The subsequent use of plugs is especially indicated in this form of obstruction, and should be persevered in for many months and even years. This is a point not often insisted on in books; I think it very important.

The form of stenosis most interesting to the practitioner is probably that seen in newly born infants. A poor little child comes into the world with the instinct of getting its living by suction for the first few months of its existence, and with the idea that it will not be asking too much to be allowed to breathe at the same time. But in a few days, or even in a few hours, after birth "snuffles" of a virulent type sets in, and a cruel destiny declares that the child shall not suck and breathe at the same time—the one line of business may be carried on by itself, but not the two together; and, as both are essential, the suckling finds himself in an awkward predicament and begins to inquire why his environments are so unsuited to his physical potentialities—that at least seems to be the correct interpretation of the loud and frequent outcries and violent struggles that become too familiar to the mother and friends. The case is one of great urgency and danger. Not only is nutrition impeded in the ordinary act of sucking, but during sleep, the tongue in sucklings being always in contact with the roof of the mouth, the child is constantly in danger of being suffocated, and wakes up struggling for breath or falls into convulsions of an epileptoid character. Frequent repetitions of these attacks, if unrelieved, speedily put an end to the child's sufferings. Energetic treatment, however, at the outset, by frequent syringing with appropriate astringent and antiseptic solutions, and feeding by the mouth or by a tube passed into the œsophagus through the nostrils, almost always brings about a speedy change for the better. In addition to these measures, gum-elastic tubes passed through the nostrils and retained there during sleep enable the little sufferer to get tranquil rest. Should, however, the obstruction be only partial there is still great risk of much mischief to the chest walls and to the air cells from the long persistence of dyspnœa even of a mitigated kind. In the course of time the chest walls become contracted and flattened laterally, emphysema is produced, and the growth is stunted in all parts of the organism. Early and energetic treatment may, and often does, prevent these disastrous consequences.

The next most interesting form of stenosis is that connected with adenoid vegetations of the naso-pharynx, occurring as they do mostly in early youth and in young adults; they give rise to a set of well-marked and peculiar symptoms when the growths are sufficiently large and numerous as to cause serious obstruction in the posterior nares. When slightly developed and early treated the only symptom noticed is a somewhat dull articulation, as if from a cold in the head, and some amount of stertor during sleep. The general nutrition, however, does not suffer, and very little notice is taken of the defect, which is, according to my experience, very common. In such slight cases, as the body generally develops the pharynx expands, the general nutrition does not suffer, and the symptoms pass off without leaving any traces or inducing any secondary changes in the thorax. In a number of cases, however, in which the obstruction is allowed to go unrelieved for years and becomes aggravated by frelateral compression and narrowed also in all its dimensions. The growth is stunted; the mental faculties are, or appear to be, dull. The youth is backward in his studies, and takes little interest either in them or in his games. He goes about with mouth agape, and, being often somewhat deaf, is credited with being almost imbecile. The alæ of the nose are flattened and dimpled in a characteristic manner, and some of the patients have a very peculiar way of twitching their upper lips and sides of the nostrils. With these obvious symptoms the diagnosis is easy, and is confirmed by rhinoscopic or digital examination of the naso-pharynx, where the soft rounded pea-shaped or oval growths are found lining the lateral walls and roof of the pharynx and obstructing the choanæ by overlapping them. When the disease has reached this stage the only relief obtainable is by operation for removal of the growths, and even at this advanced stage it is often possible to effect a cure of most of the symptoms, though there is much risk in allowing any of these symptoms, especially those affecting the ear, to go on to such a dangerous extent. The majority of cases, however, when treated energetically, give most satisfactory results. A lad who had been considered unfit for anything becomes bright, cheerful and intelligent, and seems quite a different being after the complete restoration of nasal breathing.

When we come to consider *syphilitic disease* in the nostrils, here the stenosis is of secondary importance, so far as the effects on the general health are concerned, with the exception of the syphilitic coryza in sucklings, in whom the obstruction to breathing becomes a matter of grave danger, not only to health, but to the life of the patient. It must be dealt with early and energetically, not less by local than by constitutional treatment, into the details of which it would be out of place to enter. In the syphilitic ozæna of adults with caries or necrosis there is the increased danger of the purulent infection due to the retention of foul discharges in the nostril. Fatal meningitis may result from these causes, and the removal of obstructing pieces of carious bone is often a means of saving patients when in this condition.

The stenoses of *malformed and distorted septum* are often overlooked, because though, as a rule, there is some obliquity of the nose externally, there may be a considerable twist of the septum without any visible sign externally. There is, however, a tendency (especially when the twist is sigmoid) for the septum to obstruct both nostrils and to produce all the usual effects of stenosis, laboured breathing and snoring at night, choking fits on going to sleep, contraction of the chest walls and, later on, asthmatic attacks. I have seen several cases of this kind, and it is supposed by Bosworth, Hack and many others that a form of hay fever is one of the results of congenital obstruction due to these various malformations. Readjustment of the septum by operation is certainly very beneficial in many cases; whether such operation will cure hay asthma, however, is, I think, extremely doubtful. Besides congenital distortions, the cartilage or bone of the septum may be enlarged and thickened and may cause obstruction of a serious nature, giving rise to considerable discomfort and affecting the general health in the same way as the other forms of stenosis. Local treatment efficiently applied is always beneficial, and is urgently called for if it is exciting chronic rhinitis, as it often does, or if the respiration is exclusively buccal in character. Traumatic, cicatricial and congenital occlusions from other causes all require attention, for the same reasons which apply to the condition already alluded to, and cartilaginous, bony, sarcomatous and malignant tumours of the parts surrounding the nostrils are often more formidable on account of the obstruction caused by them to nasal respiration.

It would be impossible to go into details of all these forms of obstruction. My object in bringing this subject forward is to emphasise the fact that in certain cases, *not in all*, enormous benefit can be conferred on patients by the removal of nasal obstructions, and I think that it will be allowed that if in a few only there is cure, yet in a large majority considerable relief is obtainable by suitable surgical measures; that it may be laid down as beyond dispute that (1) in young children we may thus prevent deformity of the chest with its attendant evils, marasmus and even death; (2) that in youth and early adult life we may prevent permanent deformities of the chest, deafness, impairment of speech and of the mental faculties; and (3) that in adult life we may prevent and even in some cases, cure asthma, spasmodic cough, bronchitis, emphysema, intellectual hebetude and melancholia &c. I have omitted the considerations of many forms of stenosis such as occur in the course of diphtheritic rhinitis, primary syphilis of the nasal mucous membrane, tuberculous rhinitis, intra-nasal lupus, glanders and others, in which the disease is more important from its constitutional than from its local manifestations, because in them the obstruction is generally of secondary interest, and also because local treatment alone will be of little avail. At the same time, it is well to bear in mind that the same principles will apply to them as to the others, and the neglect of local treatment directed against narrowing of the breath passage will nullify much of the good effect otherwise to be obtained by skilfully directed general therapeutics.

In conclusion, I wish to make it clear that while I insist on stenosis being an important factor in many of the remote effects sometimes called reflex neuroses, I by no means wish to exclude the other factors. I think that in most cases of asthma, laryngeal cough and spasms there is a clear neuropathic element, without which the local obstruction will have no effect; and I also believe that in some cases, such as those of hay asthma, a hyper-sensitive condition of the respiratory tract (and of the nose as part of that tract) is much more likely to be the starting-point of the remote effects than mere obstruction, though there seems good evidence that, even in these cases, obstruction aggravates the condition All that I contend for is that intra-nasal obstruction is often an important element in the class of cases referred to; that it is often overlooked, or, if found, despised or made light of; and that it certainly should be sought for and dealt with by local treatment in a very large class of diseases in which, up to quite recently, its influence has been more or less ignored.

Henrietta-street, W.

ON THE PATHOLOGY OF SYPHILIS:

A THEORY FOUNDED ON A CONSIDERATION OF COLLES' LAW AND OTHER PHENOMENA OF THE HEREDITARY DISEASE.

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MANY of the clinical phenomena of syphilis are very obscure in etiology, and none more so than those connected with the hereditary form of the disease. I advance the following hypothesis as explaining several of these obscure conditions, as inherently reasonable and as falling into line with recently acquired knowledge.

It is generally admitted that syphilis must be caused by the growth of a specific micro-organism in the fluids of its victim. This organism is probably a bacillus and kindred to those of the other diseases characterised by the formation of infective granulomata. My hypothesis is as follows: (1) That the bacilli of syphilis produce, as a condition of their existence, a toxine, this toxine being probably an albumose of like nature to those isolated from cultures of tubercle and anthrax bacilli; (2) that when this toxine is present in the human body in small, slowly-increasing quantities, toleration is established and immunity acquired; (3) that this toxine is the active cause of the phenomena of syphilis).

This theory would seem to explain with singular completeness the following clinical facts:—

(*a*) *Colles' Law.*—Colles pointed out in 1837 that the mother of a syphilitic child, although she herself never presents any sign of the disease, cannot be infected by direct contact with the child, but that a healthy wet nurse would be infected by the same child, and would develop a nipple chancre and general syphilis. This observation has never been disproved. In these cases, as the mother shows no signs of the disease at any time, the child must inherit directly from the father. Cases are recorded in which the mother, marrying again a healthy man, has had perfectly healthy children.[1] The child then inheriting from the father must harbour bacilli from the first. These bacilli must produce their specific toxines; at first, when the ovum is small, in minute quantities; later, when the ovum affords a larger field for their development, in increasing amounts, up till the time of birth. But toxines are crystalloid bodies. Therefore the toxine of syphilis must tend to pass by osmosis into the maternal circulation, while the bacilli must remain in the fœtal fluids. This being so the toxine escaping must be limited in amount, and probably would never be abundant enough to cause symptoms in the mother. But it might easily be enough to establish toleration in the mother and render her immune. This is precisely the result that occurs in Colles' law; the explanation being that the mother's phagocytes have become tolerant of the toxine by prolonged exposure to small quantities. So when fresh germs are implanted from the child's mouth and form their toxine, the mother's phagocytes are not paralysed, but advance to the attack and destroy the invaders. If the mother is not protected, it is hard to see how any woman can fail to be infected by the blood of the child at the moment of the separation of the placenta. Conversely, when the mother is infected during gestation, how can the child escape infection during the laceration of the placental villi, unless it is rendered immune by toxine from the mother? But as in this case the child rarely becomes infected (Lusk), surely it must be protected. If it is "probable" that these (protected) mothers may at a late period suffer from tertiary symptoms (Hutchinson), then the theory that the toxine is the active cause of symptoms receives support. And it is to be noted that their exposure to the toxine extends over nine months. The same argument may apply in those cases of late hereditary disease in which no symptoms were noticed near birth.

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[1] Bumstead and Taylor.

(b) Another obscure point in this "strange eventful history" is the fact that syphilitic children are generally born apparently healthy. The bacilli must have been living in the fœtus for nine months, yet they produce no symptom whatever, but soon after birth an outbreak occurs. The theory accounts for this, and here lies the chief reason for thinking that the toxine is the active cause of symptoms. During intra-uterine life the toxine must be always escaping by osmosis. The maternal circulation is much the larger; therefore the fœtus must eliminate a large proportion of the toxine formed in its tissues. This elimination must favour the growth of the bacilli, but for all that they produce not the slightest effect, and the child is born looking the picture of health—that is, the child is unaffected as long as elimination can go on. At birth this safety valve is closed and the toxine must begin to accumulate. If it is the cause of symptoms, something must soon happen. Surely enough, in a few weeks the child "falls off," becomes sallow and weakly, and develops manifestations of the disease. If the bacilli are the cause of symptoms, why do they make no sign for nine months? If it is the toxine, everything is plainly accounted for.

(c) Again, those cases in which the child is not born healthy or dies *in utero* are also covered by the theory. During fœtal life many things might interfere with elimination by osmosis. The most important cause must be syphilis on the mother's side as well. Then the toxine would be produced on both sides of the placental membrane, and it must depend on the amount of toxine in the mother's blood, whether the fœtus manages to eliminate much or little—or, indeed, any—of its own toxine. Here is a varying cause for the various clinical effects. If the mother's disease were acquired soon before or at the time of conception, then one would suppose the fœtus would be able to eliminate but little toxine, and that that remaining would wreak itself on the embryonic structures, causing death. So it happens. Recently infected mothers rarely give birth to a viable fœtus (Ibid.). If the child gets rid of enough toxine to survive, it is either born with marks of disease or choroiditis, or [illegible] puny and weak, with a tendency to early pemphigus, cachexia and death. These severe and early symptoms must be due to the large amount of toxine in the fœtal tissues. At birth signs of depressed vitality are apparent, and little time is required for accumulation of toxine, before violent manifestations occur.

(d) The occurrence of placentitis gummosa and placental [illegible]

"THE ETHICS OF OPIUM AND ALCOHOL."

BY ROBERT PRINGLE, M.D. EDIN.,

BRIGADE SURGEON, BENGAL ARMY.

OF all the statements advanced by pro-opiumists none, I believe, have carried more weight, both with the professional and unprofessional public, than Dr. Mouat's article in THE LANCET of April 30th last on the Ethics of Opium and Alcohol. Following, as it did, so soon after the meeting at the Society of Arts, it seemed to confirm the statements of the majority at that meeting, and made not a few anti-opiumists reconsider their position, and one, a professional man, delivered a sharp attack on the position of the anti-opiumists, based on the apparently authoritative statements made by Dr. Mouat and the startling facts alone deducible from them. At the time I could only say that, as one who had served under Dr. Mouat as medical officer of two gaols in Bengal, I was quite at a loss to know how he could make these statements, in the absence of any column in the mortuary returns in which deaths from opium, as those from alcoholism subsequently, could be entered, and I reserved all future remarks till I had had an opportunity of examining the gaol returns for the periods in question and the report specially alluded to by Dr. Mouat. This I have now done, and the result is that Dr. Mouat's statements, in my opinion, are in the main points at issue—viz., the harmlessness of the opium habit, and the practical harmlessness of withholding the drug from confirmed opium eaters "even in the notoriously opium province of Assam"—distinctly contradicted by paragraphs in an official letter, and the reports of medical officers of standing and local experience.

As regards the anti-periodic virtues of opium in the treatment of malarial fever, by a strange coincidence I found a special report of Dr. Mouat's on Malarial Fever, in which he enters most fully into the subject and records his own views on the types of "marsh fever." Further, in the remedies Dr. Mouat advocates, while giving quinine in the first place, he distinctly states that there are not a few cases in which quinine is clearly contraindicated and arsenic acts with marked success. Biberine is also alluded to in this class of remedies. But notwithstanding Dr. Mouat believing "it to be undoubted that it (opium) is a valuable febrifuge and pick-me-up in the fevers of all alluvial and marshy soils," no mention even of opium is made in this special report, which I can quite understand, as it would hardly be in keeping with the stringency of the order withdrawing it, even in malarial Assam, though, as the result showed, some ethical and physical "pick-me-up" was necessary. In my search I came across my own report in 1855 on this withdrawal of opium from the prisoners, but the lessons learnt subsequently have convinced me, as they should have done Dr. Mouat—judging from his recorded opinion of the character of the underpaid responsible staff attached to some of the Indian gaols—that the exclusion of opium from an Indian gaol is a question, not of the stringency of a circular order, but of the wealth of the outside relations of the prisoner, as in the case of the gaoler of the Bancoorah Prison (a Eurasian), who refused a bribe of 1000 rupees, when a rupee was at par, to relax the gaol rules in the case of some wealthy prisoners, which faithfulness, by the way, was rewarded by the Government with a watch of the value of 500 rupees. The case, therefore, of the poor opium-shattered paupers whose deaths swelled the death roll of some of the Assam gaols (regarding which the Government called for a special report) was different, and they ment of Bengal, dated March 30th, 1864? "A scanty or late supply of clothing to the prisoners is stated to be one of the causes of the heavy mortality in the gaols of Rungpore, ... Kamroop. It is also mentioned as a cause of mortality in the special reports on the Patna, ... Subsangar, and Deoghur Gaols." Well may the Secretary add: "The gaol governor is quite unable to understand how officers in charge of gaols can allow such a cause to arise and to affect the health of the prisoners in face of the *standing orders* of the Government, and of the repeated instructions issued from your (Dr. Mouat's) office."

Yet again, in Dr. Mouat's report for 1866, we read at page 60: "Balasore (Orissa): *Here also*" (*Pooree Gaol* noted before) "the debilitated and deplorable condition of the prisoners, *from starvation prior to admission*, increased the sickness and mortality;" and yet the following is recorded of the gaol staff here: "The prisoners were for some time deprived of the full allowance of food from pecula*tion on the part of the late gaoler and his subordinates*, who were all removed." So, what with starvation outside and something very similar inside the gaol, little wonder the mortality was 20·73 per cent. Surely, further quotations *under this head are unnecessary.*

In this manner doubtless numbers of deaths would, or rather should, have been entered under the head of "Opiumism," had there been such a column, as there is for "Alcoholism," for it would be difficult to enter the following under any other head: Firstly, as regards the deaths due to the opium habit itself; and, secondly, to the withdrawal of the drug from those long addicted to its use.

1. As regards those deaths due directly to the opium habit we have the following particulars:—

Kamroop, Assam, 1861: "All but the confirmed opium eaters enter the gaol in good health. The latter are always a sickly set."

Debrooghur, Assam, 1861: "Prisoners generally healthy on admission, with the exception of the opium eaters."

Subsangar, Assam, 1862: "The sickness and mortality had increased during the year. Nearly all the deaths were from dysentery in worn-out opium eaters."

Kamroop, Assam, 1863 (Dr. Mouat's inspections, Dec. 28th, 1863, and Jan. 20th and 21st, 1864): "I [Dr. Mouat] am inclined to attribute the great sickness to the filthy water used for cooking and drinking, the tanks from which they were taken having been in an extremely dirty and unwholesome state."

Kamroop, Assam: "The mortality had diminished considerably, and was about that of the decennial average. Bad drainage and opium eating were assigned as the causes of the large amount of zymotic diseases still prevailing in this gaol."

Subsangar, Assam (inspected by Dr. Mouat on Jan. 12th, 1864): "Showing a considerable increase of mortality, attributed by the medical officer to the admission of a large number of sickly men and drunkards and opium eaters, and in part to them being employed in preventing the collapse of the bank of the great tank, in the performance of which they were exposed for hours to cold and wet. It was, unfortunately, a work of necessity, and no free labour was procurable."

Debrooghur, Assam, 1865: "The casualties among the latter class (local prisoners) were confined to old opium eaters."

Subsangar, Assam, 1865: "The subjects of almost all the fatal cases were absconded coolies from the tea gardens ...... their health broken down with intemperance, privation and anxiety."

2. The effects of withholding opium from these people were as follows: "He (the civil surgeon) ascribes *the deaths* from dysentery to the circumstance of the prisoners, natives of Assam, being deprived in gaol of opium, which they consume in large quantities while at large (some took as much as 60 grains per day), and for which they crave and pine in confinement."

Kamroop, Assam, 1865: "At *Cherrapoonjee* the average number in confinement was so small as to influence the death-rate in a marked manner, *seven having died among an* average strength of twenty-three. The deprivation of exercise in the open air and of opium, *to which the people of Cherra* are accustomed, is stated to have enhanced the death-rate."

The late Dr. Norman Chevers, unquestionably the highest Indian authority on medical jurisprudence and kindred subjects, when acting for Dr. Mouat, as the result of his inspection of the gaols of Lower Bengal, writes thus of those of Debrooghur and the Kassiah Hills (date of inspection Dec. 29th, 1865):—

Debrooghur: "The five deaths of Assamese prisoners from bowel disorders were confined to old opium eaters, who rapidly succumb to disease when deprived of the drug."

Kassiah Hills (inspected Jan. 31st, 1866): "The heavy mortality of the year is stated by the civil surgeon to have been *due to the Cossiahs* being deprived to some extent of out-door open-air exercise to which they are accustomed, and of the drug opium, which is almost the staple part of their living when free."

In the following year (1866) Dr. Mouat resumed charge of his duties, and in his report for 1866 writes as follows of Bograh, Bengal:—"The death-rate was, however, more than double that of the preceding year, and was due to the majority of the casualties having occurred in men whose health was bad on admission, who were aged and worn out from long suffering and were addicted to ganjah or opium."

Subsangar, Assam: "The general health of the prisoners was not good; the mortality, though lower than that of the previous year, was still high. The same causes as those mentioned in the report of the preceding year—viz., the reception into gaol of sickly Bengali emigrants and old opium eaters—are stated to have operated in producing the high death-rate of last year."

Kamroop, Assam: "The mortality of 1866 was considerably below that of the previous year, yet higher than the average of the past quinquennial period. Thirty-one of the thirty-nine casualties were from dysentery, attributed principally to the sudden stoppage of opium, to which the prisoners are subjected on conviction. A large percentage of Assamese consume about 100 to 150 grains daily of solid opium, and its sudden discontinuance, coupled with the complete change of diet, affects the digestive organs materially. The conservancy arrangements were satisfactory. The stoppage of the opium was injudiciously and improperly managed, and the diet seems to have been equally *ill dealt* with. I am in communication with the medical officer on the subject."

Bograh, Bengal (Dr. Mouat's report for 1867): "The increase of mortality was slight, and was due *entirely to all* the five casualties of the year occurring in persons whose state of health was bad on admission, and to *three of those* who died being more over-aged and addicted to opium and ganjah smoking."

Durrung, Assam: It is stated "that the frequent use of *dhall* causes indigestion, especially among opium eaters."

Debrooghur: "Two casualties occurred in worn-out opium eaters. These and a death from bronchitis were the mortality proper of the gaol."

In this year (1867) nothing is said about *the opium* habit or its withdrawal, but the present doctor, it is hoped, will correct all the "grave irregularities"; while the following is recorded of a previous doctor that there was a "total neglect of all sanitation by the *medical officer*, which I observed at my last visit to this gaol"; and yet on a reference to the report of 1866 on *the Kamroop Gaol* we read: "The conservancy arrangements were satisfactory."

It is due, however, to Dr. Mouat *to say* that in this category of reverse criticisms of his action in withholding opium from the prisoners in *Assam the report* of one officer, an apothecary in charge of a gaol (that of Kamroop, strange to say), *is entirely in favour* of this measure.

Kamroop, Gowhatty, Assam (report for 1855 by G. Simons, apothecary): *Diet*—"*Although* some of the men frequently complain of the quantity not being adequate for them, but *from the sleek appearance* maintained by them after they have been some time in prison it is probable that the clamour they make *for an extra quantity* is to enable them to dispose or barter it for the purchase of opium."

Kamroop (report for 1856-57; Apothecary Simons in medical charge): "The sudden stoppage of opium appears not only to have been unattended with injury, but to have diminished bowel affections among those previously addicted to the use of that drug. The change for the better in the health of the prisoners is also attributable in a great measure to the care bestowed on the selection of the *food* ...... the stoppage of the use of opium amongst the convicts has also had a marked good effect, all of which, added to the prompt attention given to cases of sickness by the medical officer, Mr. G. Simons, by whom most of the above reforms were suggested, had quite altered the character of the gaol, which its healthiness would now not contrast unfavourably with any other in Bengal."

The following is the death-rate for five years in the Kamroop gaol: 1851-52, 12·60 per cent.; 1852-53, 10·90; 1853-54, 10·37; 1854-55, 8·10; 1855-56, 7·50; or for five years nearly 10 per cent. a year. "The health of the prisoners has decidedly improved, which Mr. Simons attributed in some degree to the entire stoppage of opium, an experimental measure which he had adopted at my request."

[illegible] (Dr. Mouat's report for 1859-60): "The majority of the prisoners admitted are confirmed opium eaters, who are said to improve rapidly in health from the discontinuance of the drug."

I feel no apology is necessary for these copious extracts, as the whole case rests upon them, and I think fully justifies the terms used in my letter to Dr. Mouat alluded to hereafter. In that letter I state that "I think it but fair to tell you that a careful examination of the gaol reports while you were Inspector-General of Prisons, Lower Provinces, does not bear out your remarks in your article in THE LANCET of April 30th, 1892." I am well aware that a speaker at the late discussion on "The Opium Question" at the Calcutta Medical Society said: "Although no deaths could be attributed to opium, the opium eater, he (the speaker) thought, died of intercurrent diseases." Now if we bring the same law to bear on this subject which has compelled the profession to insert a column, even in India, for *alcoholism*, it seems to me that if one for "opiumism" had been added these deaths should undoubtedly have been classed under it.

It cannot fail to be noticed that I have omitted all allusion to the "ethics" of alcohol as compared with the "ethics" of opium. *This omission is intentional, for I dispute the* feasibility, much less the possibility, of any comparison being instituted, even allowing there were "ethics" in either. For instance, it entirely presupposes that there is an alcoholic habit in India similar to that met with in this country. Now to those who know anything of the character or customs of the natives of India, who indulge in alcohol, it will be evident that there can be no alcoholic habit such as there is in this country. True, since this country assumed the direct government of India in 1858 a steadily increasing effort has been made (chiefly, however, in Lower Bengal) to introduce, or, perhaps better, to excite, this habit by placing *grog-shops in many* cases near road-side wells or even factories and tea gardens, as a kind of public-house arrangement; but it has failed signally, as those know who have studied the subject, as in every district there are certain grog-shops specially selected by the native drinker, where he goes to indulge his [illegible] habit, if such it can be called, by getting drunk, the bargain being, "How much will you charge to make me drunk?" Here, alas! lies the secret of much of the madness supposed to be due entirely to alcohol, but it is to be found mostly traceable to the pernicious ingredients so often used to reduce the liquor drunk and expedite the drunkenness. Little wonder that

lanes," which from personal knowledge and observation I can give an unqualified denial to, must now be handed over to that category of *statistical conclusions* the refutation of which can be summed up in the remark that they are on close investigation not only totally unsupported by facts, but actually contradicted on unquestionable evidence.

Before I close I would take this opportunity of thanking Dr. Mouat for his courtesy in replying so fully to my letter alluded to before, asking him for a copy of his circular to medical officers in charge of gaols, containing his instructions regarding the method to be adopted by which this withholding of opium can be done "without any injury," as after a most careful search I could not find it, though it is alluded to when an explanation is submitted by Dr. Mouat regarding the increased rate of mortality stated by some medical officers to be due to this withholding of opium. Dr. Mouat, in reply, regretted he was unable to send me a copy of the circular, though, he added, it must be among the records of his office when he held the post of Inspector-General of Prisons in Bengal. The action of Dr. Mouat is in striking contrast with that of Sir William Hunter, to whom I wrote asking for his authority for his statements regarding what he was pleased to describe as "missionary misrepresentations" respecting the circumstances attending the worship connected with the festival of the car of Juggernauth, and which he mixed up in a strange way with the opium question, describing it as "a mistake about the use of opium curiously like that which their (the less-instructed missionaries) predecessors made in regard to the worship of Juggernauth." *No reply was vouchsafed to my letter, though* I supported it by the fact that I was present at Juggernauth as civil medical officer when the dead, the dying and the maimed were dragged from under the car of the idol, and that I operated on some of these poor mangled victims. *The Times* refused to insert my letter giving an unqualified denial to the statements regarding the car festival of the idol of Juggernauth if it related to the headquarters of the worship at Pooree or Juggernauth, so "*The Times* reading world" must, alas! view the injurious effects of the opium habit and the difficulty of abandoning it in much the same light as it is asked to view the bloodstained wheels of the car used in the worship of "gentle and merciful" Juggernauth—viz., as missionary *misrepresentations.*

Blackheath.

THE REMOTE EFFECTS OF PERITONEAL ADHESIONS CONSEQUENT ON REMOVAL OF THE OVARIES.

BY JOHN PHILLIPS, M.A., M.D. CANTAB., F.R.C.P. LOND.,
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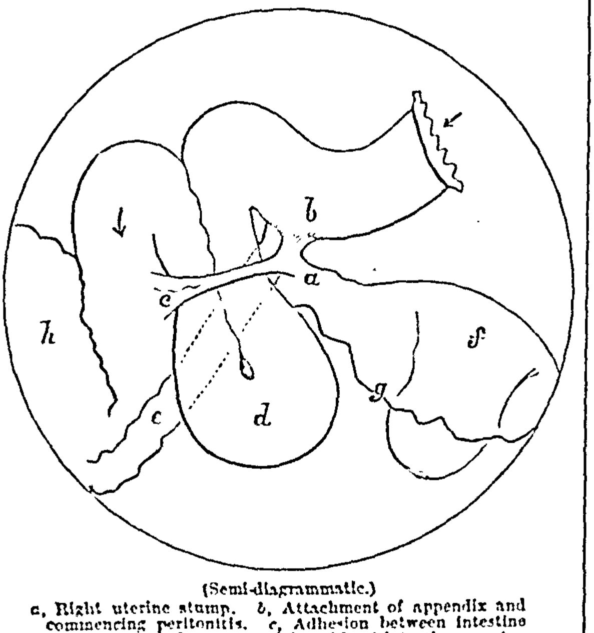
PHYSICIAN FOR IN-PATIENTS TO THE BRITISH LYING-IN HOSPITAL.

was found abnormal in the uterine cavity. A ring pessary was inserted to support the ovaries, but gave no relief. The anæsthetic (chloroform) caused violent retching and sickness, which lasted for several days, during which time she was fed per rectum. In September she again came under observation, the hæmorrhage being now continuous and confinement to bed compulsory by reason of the pain and sickness. It was then felt that nothing except the removal of the ovaries would give any chance of relief. I saw her with Dr. Miller on Nov. 14th, 1890, and, considering what had been done and the patient's then condition, I concurred with him as to the propriety of the operation. He accordingly removed both tubes and ovaries on Dec. 6th. She went to Eastbourne on Feb. 3rd, 1891, and was seen by Dr. Miller in the May following. There had been moderate metrostaxis two months after the operation, without any pain, and, except for severe flushings and other nervous feelings, she felt much better; the sickness had entirely ceased. Constipation troubled her as before the operation, and was combated by full doses of cascara. During the summer she continued to improve, was able to walk four miles without fatigue, and she considered her condition more satisfactory than it had been for several years. She had slight hæmorrhagic discharge on three occasions up to October, but without pain or discomfort. In November and December she was under treatment for violent cutting pains in the lower abdomen and of increasing constipation, requiring large doses of aperient medicine to overcome it. On Dec. 17th she was seized with severe pain and sickness, and was found in bed, with a temperature of 102°, much abdominal pain, and constant vomiting. The bowels were confined, the abdomen not distended, but there were great tenderness and some fulness over the region of the cæcum. Nothing abnormal was revealed by vaginal examination. She was treated by the usual rectal injections and other remedies, and for a few days she improved; the temperature became normal, the sickness ceased, and the bowels acted; the pain and tenderness over the cæcum and right side of the abdomen, however, continued. On Dec 27th the bowels acted freely; but, instead of giving relief, the act was followed by aggravation of all her symptoms. The temperature fell to subnormal, and she died from exhaustion, in great pain, after sixteen days' illness.

Post-mortem examination.—On opening the abdomen no general peritonitis was found. The appended figure will give some idea of the arrangement of the parts. From the right uterine stump (*a*) to the small intestine (*c*), just before its entrance into the cæcum, a thick adhesion an inch and a quarter long was found extending; it was broader at the intestinal end and thinned off to a point at its insertion into the uterine stump. Immediately below this was a knuckle of small intestine eight inches in circumference (*d*), dark and congested, but not of a chocolate colour. Beneath the intestine, again, was found the vermiform appendix (*e*), much thickened and three inches and a half long; it was in a condition of almost extreme tension; its distal extremity was attached just above the uterine stump to the small intestine, and peritonitis was just commencing there (*b*).



(Semi-diagrammatic.)

a, Right uterine stump. *b*, Attachment of appendix and commencing peritonitis. *c*, Adhesion between intestine and stump. *d*, Incarcerated knuckle of intestine. *e*, Appendix vermiformis. *f*, Uterus (anterior surface). *g*, Peritoneal edge (cut). *h*, Cæcum. It will be thus seen that the adhesion and displaced appendix vermiformis enclosed an elongated slit between them, through which a knuckle of intestine had obtruded itself and become incarcerated.

CASE 2 (Macready[7]).—This has an important bearing on Case 1. The patient suffered from colicky pains more or less continually after ovariotomy seven years before, and had had an attack of total obstruction for fourteen days two years after the operation, which, however, yielded to palliative treatment. Macready operated for a second attack of obstruction seven years after ovariotomy, fæcal vomiting being present. The adhesions were on the right side. Four deep and another still deeper were found constricting the intestines by passing from one loop to another; these were divided, and as the patient recovered the exact site of attachment could not be accurately made out. In the author's own words, "this is one of the remote consequences of ovariotomy."

CASE 3 (Shively[8]).—The patient was forty-five years of age; ovariotomy was performed four or five years before, since which time she has been constipated and has had periodic attacks of colic, which usually gave way to subcutaneous injections of morphia. She took a dose of cathartic pills one morning shortly before her illness began, and a good action had taken place; colicky pains, however, ensued in the evening. The pain increased and sickness began, but no tympanites appeared; long tube enemata were given repeatedly, but no further action took place. The vomiting and pain increased, and the patient died after seven days' illness.

The post-mortem examination revealed a complete key to the illness. "There were extensive adhesions of the intestines to the sides and posterior wall of the abdomen, binding them firmly down." This was doubtless the reason for the non-appearance of tympanites. A portion of ileum eighteen inches above the cæcum was adherent to and incorporated with the cicatrix of the wound of the previous ovariotomy. "Around the short portion, between this and the cæcum, a loop of small intestine was twice twisted, forming a kind of knot," and a complete occlusion was thus produced. The direct cause was doubtless the cathartic given on the morning of the commencement of the illness, possibly assisted by some favourable position assumed by the body.

We have therefore three distinct varieties of causation of intestinal obstruction after ovariotomy: (1) When the adhesion arises from the stump; (2) from the cicatrix of the abdominal wound; (3) from intestine to intestine. The small intestine, in consequence of its greater mobility, is liable to form adhesions with any abraded surface; hence we find them more common in connexion with the small than with the large intestine. Martin of Berlin has proved, as the result of observations on second operations on the same patient, the presence of slight non-septic peritonitis as the immediate effect of every ovariotomy. The colicky pains which patients often suffer from after ovariotomy, and complicated with constipation, are due to small peritonitic adhesions the result of this localised non-febrile peritonitis. Hunter[9] has devoted a paper to this subject and it is well worthy of perusal. If the prevention of formation of adhesions could be arrived at for forty-eight hours after operation, our position would be a more favourable one. In an interesting paper by Dr. R. T. Morris[10] on this subject he declares that he has completely demonstrated the fact that an application of a film of aristol to the stump prevents secondary peritoneal adhesions; he experimented on rabbits and relates one case of abdominal section in the human subject. The above facts seem to point strongly to the desirability of our knowing the subsequent histories of those patients whose cases fill the long lists of ovariotomies published from time to time and classed as complete successes.

Grosvenor-street, W.

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[7] Brit. Med. Jour., vol. ii. 1883, p. 816: Internal Strangulation.

[8] New York Medical Journal, 1884, vol. xl., p. 292: Intestinal Obstruction &c., remotely connected with Ovariotomy.

[9] American Gynæcological Transactions, 1886, vol. xi., p. 92. On Persistent Pains after Abdominal Section.

[10] Medical Record of New York, Oct. 10th, 1891: Prevention of Peritoneal Adhesions by a Film of Aristol.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL.

CASE OF RADICAL CURE OF INGUINAL HERNIA BY HALSTED'S METHOD.

By FREDERICK PAGE, M.D. EDIN., M.R.C.S.

A PLATELAYER, aged twenty-five years, was admitted into the Royal Infirmary, Newcastle-upon-Tyne, on June 13th last, for the purpose of undergoing an operation for the radical cure of an oblique hernia on the left side. The ring admitted three fingers, and trusses failed to keep the hernia up. On June 18th Halsted's operation was performed as that described by him in the Johns Hopkins Hospital Reports of March 1st, 1891: "The skin incision extended from a point about two centimetres internal to the anterior superior spine of the ilium to the spine of the pubes. The subcutaneous tissues were divided so as to expose clearly the aponeurosis of the external oblique muscle, the external abdominal ring and the sac of the hernia. The aponeurosis of the external oblique muscle, the internal oblique, and the transversalis muscles and the transversalis fascia were severed to the outer extremity of the skin incision. An incision large enough to admit two fingers was then made into the sac. The index and middle fingers of the left hand with a small piece of sterilised gauze were passed into the sac. By them the hernial contents were passed back into the abdominal cavity, and over the fingers the sac, first on one side and then on the other, was drawn tense and held by the thumb of the same hand, while the tissues in which the sac was embedded were stripped off from it by the other hand. With the division of the abdominal muscles and transversalis fascia the so-called neck of the sac vanishes. There is no longer a constriction of the sac. The communication between the sac and the abdominal cavity is more than large enough to admit one's hand. The sac, having been completely isolated, was torn more widely open and the peritoneal cavity was closed as deeply as possible by seven or eight quilted sutures of fine silk. The sac was then cut away quite close to the line of the peritoneal sutures. The vas deferens and its vessels having been isolated, they were hooked up into the outer angle of the wound by a quilted suture, which included the transversalis and internal oblique muscles and the aponeurosis of the external oblique muscle. This suture was the first of a row of seven or eight quilted sutures of strong silk, which were passed deeply through the pillars of the ring and through the divided muscles of the abdominal wall. These sutures were taken very close together, were made to include the deepest tissues available, and were tied tight enough to bring into close apposition the broad surfaces which they embraced." The wound was powdered with boracic acid and covered with gauze and cotton-wool. No constitutional disturbance followed the operation. June 25th: The wound was examined for the first time and found to be healed throughout. July 14th: Patient was discharged.

AN INSIDIOUS CASE OF CIRRHOSIS OF THE LIVER RAPIDLY FATAL FROM MELÆNA AND HÆMATEMESIS.

By SURG.-LIEUT.-COL. S. L. DOBIE, L.R.C.P. EDIN. &c.,
SUPERINTENDENT OF THE GOVERNMENT ASYLUM, MADRAS.

MR. ——, a tall, gaunt European, aged forty, was admitted into the Madras Lunatic Asylum on March 17th last, suffering from melancholia. He had a previous history of intemperance, with an attack of delirium tremens last January. For the last twenty years he had led a rough life in India, with much hard work and exposure to the sun, and he had suffered a good deal from malarious fever. Until the advent of the illness which ended in his death he had no physical symptoms of ill health beyond a certain amount of emaciation. There was a general pigmentation of his skin, supposed to be due to constant exposure to the sun, which gave him a light-brown colour. His melancholia was not very pronounced or and was associated with certain delusions. He went to bed on July 11th apparently in his usual health. He had eaten his food properly during the day, having complained of nothing and having talked rationally about business matters. The next morning, about six o'clock, he was found lying in bed half conscious, with dilated pupils and feeble pulse. He was found to have passed a tarry motion in the bed. He remained faint and barely conscious during the forenoon of July 12th, and at midday passed a large offensive motion of tarry constituency. At 2 P.M. a a more liquid motion of dark blood was passed, and at 3 P.M. there was an escape of fluid blood from the mouth and nose. By this time he was restless, frequently yawning, and occasionally sighing. An examination of the abdomen in the hepatic and epigastric regions caused a tendency to vomit. By the evening he had sunk into a state of complete unconsciousness, and remained in the same state all night. On the morning of July 13th he again passed blood by the bowel, and a small quantity escaped from his nose and mouth. He lay on his back quite insensible, breathing hard, and shortly after midday on July 13th he died, the time between the first apparent symptoms and death being from thirty to thirty-six hours.

At the post-mortem examination, which took place three hours and a half after death, all the organs were found blanched. The stomach and the intestines from end to end contained blood fluid or in clot. The capsule of the liver was adherent to the diaphragm and neighbouring organs. The liver itself was slightly contracted and weighed three pounds and a half. It was not hobnailed, but there was a great increase of fibrous tissue in Glisson's capsule, so that the hepatic lobules were encroached upon and the proper parenchyma of the liver much lessened. The condition seemed to be one of cirrhosis in course of development. The spleen was enlarged, weighing two pounds six ounces, and was hard and fibrous. The state of the other organs offered nothing of importance to record.

Whatever interest this case possesses lies chiefly in the insidious nature of the disease and its rapidly fatal course from the first appearance of the hæmorrhage. I do not think that the physical condition before the supervention of hæmorrhage was masked by the mental disease, for the melancholy was not profound and he would have been likely to have complained of any bodily ailment from which he might was no account of the size of the piece of meat swallowed. He was taken at once to a doctor, who was not at home. He was then brought to the hospital, about twenty minutes after the accident happened. On arrival the child lay motionless; its face was turgid and livid, the veins over the head distended, and its eyes prominent. There was very shallow breathing, of a stridorous character. The breath sounds were feeble over the right lung and almost absent over the left. They were accompanied by some stridor on inspiration, and expiration was prolonged and wavy. The fauces were rapidly examined, and nothing being found there, tracheotomy was at once performed. There was then some feeble respiratory effort, the stridor still being present. An examination of the trachea was made; but the child having ceased breathing, artificial respiration was employed, but with no avail.

On post-mortem examination the veins all over the body were found full of dark fluid blood. The lungs were violet in colour, the left one being collapsed, the right one somewhat distended. The veins over the heart were prominent; the right side of the heart was full of dark fluid blood. In the œsophagus, immediately behind the bifurcation of the bronchi, at the level of the body of the fourth dorsal vertebra, there was found, tightly impacted, a hard piece of gristle, measuring an inch and one-eighth long, three-quarters of an inch broad and half an inch thick. It weighed fully a quarter of an ounce. It was pressing on both bronchi, so as to almost totally occlude the left and partially the right. In front of the bronchi were the arch of the aorta and a very large thymus gland pressed close against it by the sternum. The position of the foreign body, the symptoms of obstruction of the trachea to which it gave rise, and the method by which those symptoms were produced as revealed at the necropsy, seem worthy of note.

TRANSVERSE PRESENTATION ON TWO CONSECUTIVE OCCASIONS; EVISCERATION; TURNING.

BY SURGEON-MAJOR D. C. DAVIDSON, I.M.S.,
CIVIL SURGEON, SATARA.

ON July 22nd, 1889, I was sent for to see a young Hindoo woman, about nineteen years of age, the wife of a farmer, living some miles from Satara, who it was stated had been in labour for some time. On arriving at the house I found the arm protruding from the vagina, swollen and discoloured, with the cutis peeling off. She had been in labour about two days, and the uterus was contracted on the child, which was evidently dead. The patient was put under chloroform and turning attempted; but the child was so firmly jammed down in the pelvis that this was found to be impossible. Evisceration was therefore the only alternative (decapitation being in the first instance impracticable), which, after obtaining the consent of the friends, was performed. The contents of the chest and abdomen being evacuated through an opening in the axilla under the presenting arm, instead of decapitating, which often gives rise to trouble in extraction of the head, I divided the child, leaving one arm and shoulder attached to the head and neck; the lower portion of the body was then withdrawn, and the arm and shoulder, with the head and neck attached to it, easily removed afterwards. The patient made an excellent recovery.

I lost sight of the woman's friends until July 6th of this year, when she was brought to the Satara Civil Hospital, a distance of about five or six miles, suffering again from obstruction. She had, it was stated, been in labour since the preceding day; the membranes had ruptured about midnight. On examination I found the hand and arm presenting, the parts hot and dry and the uterus in a state of tonic contraction. The patient was put under chloroform, and the child, which was dead, delivered by turning. She did well.

Remarks.—An unusual feature of this case is the occurrence of an arm presentation in the same patient in two consecutive pregnancies. Evisceration is rightly regarded as one of the most serious and difficult operations in obstetric practice, and the difficulties were not diminished in this case by the operation having to be performed in a small native house, with defective light and on a low cot. Great care was taken to guard against injury to the uterus and soft parts generally, and antiseptic precautions were as strictly carried out as the nature of the circumstances admitted of, to both of which I consider the complete recovery of the patient was in a great measure due. This is the second occasion on which I have performed evisceration, and each operation was followed by a good recovery.

Satara, India.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN:

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se compare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Prooemium.

METROPOLITAN HOSPITAL.

A CASE OF CATALEPSY IN A PATIENT WITH GENERAL TUBERCULOSIS.

(Under the care of Dr. C. R. DRYSDALE.)

THIS case is recorded as being a well-marked instance of catalepsy occurring in a male subject who was at the same time affected with extensive organic disease of a tuberculous nature. Mr. Handson informs us he had been greatly subjected to religious influences, having been brought up by priests in a Roman Catholic home from the age of five till twelve; and was said to have had similar seizures before admission, and on one occasion, after recovering from a "fit," to have stated that he was St. Peter. His condition during an attack was not unlike some states of hypnosis, and it is worthy of note that before an attack occurred he would stare long and fixedly at the gas at night, or straight in front of him in the daytime. Mr. Handson considers that his condition might be explained as being due to autosuggestion occurring in a neurotic subject. In some lectures by Dr. Gowers, which we published in THE LANCET,[1] the condition which this patient manifested is thus explained: "In the hypnotic catalepsy, apparently, the inhibitory action includes all the structures that subserve psychical processes and the lower motor centres are in functional connexion only with the lower sensory centres. The higher controls the lower, and, uncontrolled, the lower passes into a state of increased action. This law seems to obtain throughout the central nervous system. The spontaneous activity of the motor cortex, unrestrained, is instantly manifested by the universal increase in normal tone, obeying the laws of the normal adaptation, differing therefrom only in degree. In no other way can we understand the essential features of the phenomena." For the notes of the case we are indebted to Mr. C. P. Handson, house physician.

T. S——, aged fourteen, was admitted into the Metropolitan Hospital on May 10th, 1892. The duration of the illness was uncertain. The boy stated that he had been ill since Christmas, 1890. He had had no previous illnesses. There was no family history of tubercle or of nervous disorders.

On admission the patient was somewhat cyanosed. Tongue moist and pale; pulse 120, very small, but regular; respiration not quickened. There were symptoms of phthisis in the stage of consolidation at the right apex behind and at the left apex in front. Signs of mitral stenosis were apparent and adherent pericardium. No tubercle bacilli were found in the sputum, though looked for on several occasions. The legs were œdematous. The fingers were not clubbed. Urine acid; sp. gr. 1028; very faint trace of albumen. There was nothing abnormal about the liver and spleen.

From the time of admission till the day of death on June 25th the physical signs remained practically unaltered. The temperature, which was of hectic type, ranged from 102° to 95° F. The urine ranged from eight to thirty-eight ounces, but was generally very scanty. During the previous fortnight the boy had moderate diarrhœa. At times he refused all food and was fed by a nasal tube, against which he struggled violently.

May 26th.—Has been delirious all night; tries to get out of bed. Has attacks in which all his limbs on both sides stiffen out. The legs are rigid, but can be bent easily; knee-jerks present; no ankle-clonus. The nurse thinks he understands when spoken to, but he has not spoken this morning.

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[1] Vol. i. 1890, p. 1157.

The patient had improved in general health and had no more attacks till June 8th, when he had a typical cataleptic "fit." The arms were rigid and preferably in the crucifixion attitude described by Charcot. The legs were quite rigid. The limbs remained for a few seconds (the legs for some time) in any position in which they were placed. He was very amenable to suggestions—e.g., on telling him to raise his right leg it was immediately raised to a right angle with the trunk. The limbs could be easily flexed at the joints without using force. The eyes were kept wide open, and the pupils reacted to light. He had a vacant look on his face and stared straight in front of him.

June 10th.—He had two similar attacks last night.

11th.—He has hallucinations at night: sees dead people &c. and screams out.

25th.—Died suddenly after nasal feeding.

Post-mortem examination.—Brain: Rather excessive quantity of fluid in lateral ventricles. Convolutions somewhat flattened. No tubercle. Lungs: Chronic tubercular changes at both apices. Heart: Pericardium adherent to chest wall and left lung. Mitral orifice stenosed. Mediastinal and mesenteric glands enormously enlarged and caseating. Mesentery thickened and contracted. Much typical tuberculous ulceration of ileum, lower part of jejunum, cæcum and ascending colon. Large quantity of clear fluid in peritoneal cavity. Liver: Late nutmeg. Spleen hard with old infarct. Kidneys: Papillæ congested; cortex pale.

ROYAL INFIRMARY, NEWCASTLE-ON-TYNE.

CASE OF AORTIC, MITRAL AND TRICUSPID STENOSIS.

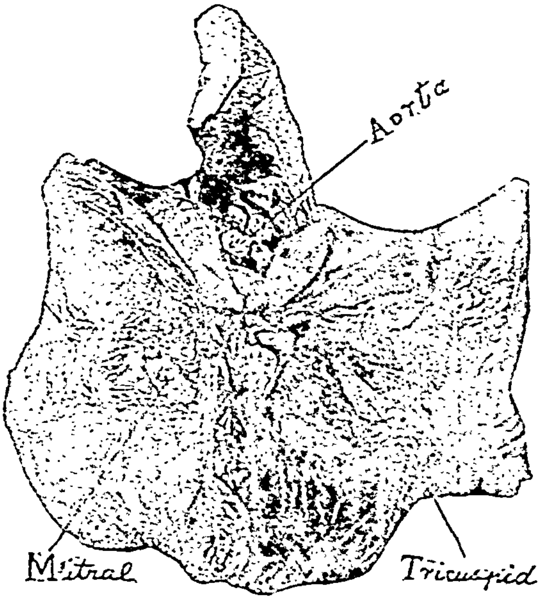
(Under the care of Dr. DAVID DRUMMOND.)

THE following case is interesting as illustrating the length of time a heart damaged severely in early life sometimes struggles successfully against enormous odds to maintain a state of efficiency. The illustration (from a photograph taken by Mr. Bolam, student of medicine) shows the contracted orifices, which are rendered visible by clipping away the walls of the auricles and folding down the aorta.

M. B——, aged forty, single, was admitted into the Royal Infirmary for shortness of breath, pain in the epigastrium and œdema of the lower extremities. She was able to earn her living by working by the day at house work until eight months before her admission to hospital, when she was compelled to rest through shortness of breath and recurring attacks of faintness. This illness she ascribed to disturbed nights and extra fatigue consequent upon nursing a bedridden mother. For some time previously she had suffered from pain and distension in the epigastrium after food, which increased when she broke down.

On admission the patient appeared to be fairly nourished. The legs were œdematous below the knees. The skin generally presented the faded yellow tint so characteristic of cardiac failure with pronounced tricuspid disease. A dusky-pink flush covered the cheek, the lips were somewhat cyanotic, and the eyes presented the moist, glassy appearance of hepatic engorgement. The pulse was small, rapid (generally about 90), compressible and, as a rule, regular. It gave some, though slight indications of aortic incompetency. There was marked breathlessness on exertion, a good deal of cough with frothy expectoration, [illegible] pain in the præcordium, and the usual distressing

bruit conducted well into the vessels, and a somewhat low-pitched murmur of incompetency, which could be traced down the sternum and towards the left apex beat, in approaching which it was for a short space almost lost, to reappear at the apex and beyond as a characteristic conducted diastolic aortic. The murmurs at the lower end of the sternum in the tricuspid area were a systolic, which could be differentiated from the bruit (aortic) that was conducted into the vessels in the neck, and a diastolic which seemed to be part and parcel of the murmur of aortic regurgitation. Beyond the fact that the mitral presystolic was conducted further to the right than usual; there was nothing detected by the stethoscope that justified the diagnosis of tricuspid stenosis. The liver was decidedly enlarged, but no hepatic impulse could be detected. The veins in the neck were full; but here, again, there was an absence of the characteristic pulse of back-wash.



For a time rest and treatment by heart tonics gave good results, but the improvement was only temporary, and by degrees the cyanosis, breathlessness and dropsy returned, and she died on June 8th after ten weeks' stay in hospital.

Post-mortem examination.—Body œdematous, particularly legs and external genitals. Both pleural cavities contained fluid; the lungs were emphysematous and sodden. The heart weighed 25 oz.; the pericardial membrane and sac were normal; the pulmonary artery stood out prominently and was decidedly larger than the aorta; both ventricles were markedly dilated and hypertrophied; the mitral and tricuspid orifices were contracted and funnel-shaped and admitted the point of the little finger; the aortic orifice was much reduced, admitting an ordinary cedar pencil; its valves were decidedly incompetent; the valves of the three stenosed orifices were glued together and presented ample evidence of old inflammation (probably fœtal endocarditis). The orifice and valves of the pulmonary artery were normal, though an old ante-mortem clot extended from the right ventricle into the artery.

had a patient under his care at the same age suffering from a similar kind of tumour; and the case of a child aged twenty months,[3] from whom an ovarian tumour was successfully removed, is also described.

M. E. A——, aged seven years and a half, was admitted on April 23rd, 1892, with lameness of right leg and abdominal enlargement. The lameness of the leg began two years and a half ago, six months after an attack of measles. The limb was fixed for some time in a plaster bandage. The swelling in the abdomen was accidentally discovered by the mother when bathing the child, and was about the size of an orange. The patient had had measles, scarlet fever, whooping-cough, and is said to have had inflammation of the brain.

On admission the child was healthy-looking, plump, and, apart from the lameness and tumour, apparently enjoying good health. The right leg was flexed at the hip, adducted and rotated outwards; the muscles were flaccid and wasted; there was ankylosis at the hipjoint. Occupying the centre and right lower half of the abdomen was a tumour, the size of a child's head. It extended two inches to the left of the umbilicus and one inch and a half above it; it was freely movable, smooth on the surface, and dull on percussion; it was surrounded by a resonant area, and the hand could be placed between it and the kidney; there was a distinct wave of fluctuation through it; there was no pain or elevation of temperature. No rectal examination was made.

On May 1st the abdomen was opened by a median incision four inches long, an exploring needle introduced into the tumour, and purulent creamy-looking material withdrawn; a large trocar and cannula was next introduced into the tumour, but as the fluid failed to run the opening was enlarged, the child turned on to the side, the contents evacuated, and the tumour easily removed; the pedicle, consisting of the right broad ligament, about two inches long and three-quarters of an inch across, was transfixed and ligatured by carbolised silk. There were no adhesions. Keith's drainage tube was inserted and removed on the third day. The patient made an uninterrupted recovery and left the hospital nineteen days after operation.

The tumour consisted of a single cyst about the size of the fœtal head at term; it was full of purulent creamy-looking sebaceous matter and contained several long white hairs growing from its inner surface.

Reviews and Notices of Books.

On the Medical and Surgical Uses of Electricity. By GEORGE M. BEARD, A.M., M.D., and A. D. ROCKWELL, A.M., M.D.

THE eighth edition of this book well sustains the reputation which it has earned as a text-book on a special subject. It appears under the auspices of Dr. Rockwell, who, long since deprived by death of his fellow worker, has spared no pains to give permanency to the effort of their joint lives. The new matter in the present edition is chiefly the result of accumulating experience in the treatment of disease. The earlier chapters, dealing with electro-physics and physiology, are practically unchanged; and they serve as a very useful and fairly sufficient introduction to the study of electro-therapeutics. Dr. Rockwell very justly gives conspicuous prominence to the question of dosage of electricity, and his judicious remarks upon that head will be approved by those who desire to secure for electro-therapeutics a sound scientific position no less than by those who earnestly wish for a secure guidance for its application. There is nothing which more decidedly distinguishes the physician from the charlatan than the aspiration for exact methods and the careful observation of results. According as these objects are attained, there will be less room for the unreasoning credulity which is the prolific parent of abuse, and at the same time a more confident expectation of benefit in those cases where benefit may be obtained. In both ways a larger number of industrious workers will be attracted to a field which undoubtedly is of much promise. Sharing as we do the author's conviction as to the importance of attending to the minutiæ of treatment, we think it well to quote his words:—"No one who has not had personal experience along this line, or witnessed practical demonstrations of the physiological and therapeutical effects of the various currents of quantity and tension ...... can form any idea of the astonishing difference observed in their action on nerve and muscle;" and we may add that the statement is true in an equal degree of the less understood applications of electricity to other structures. The scope of the present book is very extensive. It is expressly designed "as a work of exhaustive reference for the electrologist," and the latter is defined as one whose ideal it is to become "a master of electricity in its physical and physiological as well as in its purely diagnostic and therapeutic relations." To say that it fulfils this ambitious design would be going too far; but it approaches more nearly to it than does any other text-book. It is especially valuable as embodying the results of a mature experience in a great variety of instances. It is enriched with copious notes of cases. The pathology given for certain diseases is somewhat open to question. As an example, we may note the very unsatisfactory reference to the differential diagnosis of paraplegia. Again, no distinction is made between focal myelitis and general myelitis. We notice also that alcoholic neuritis has no place in the author's scheme. It is mentioned, indeed, under chronic alcoholism, but there is no hint that it is a form of peripheral neuritis and that it is attended with the signs of the reaction of degeneration. In this respect the claim put forth in the preface that the subject matter has been brought up to date is hardly justified, and the omission of due consideration of a disease which is at once so common and which falls so clearly within the province of the electro-therapeutist is an obvious defect. The statement that "the hysterical form of paralysis is constitutional because the entire central nervous system is degenerated into a condition of abnormal sensibility" seems to us to be capable of a good deal of expansion, and in its present form had been better withheld. That "cerebral effusion may be indicated by congestion or infiltration of the optic discs on the side on which the clot exists" is, we believe, at variance with the teaching of eminent authorities. The scheme of pathology adopted in connexion with diabetes is indeed associated with the name of a distinguished physician, but it is certainly not accepted, and the conclusions based upon it appear to us to have little value. Galvanisation of the brain, spinal cord and sympathetic, as an experiment, might possibly prove useful in diabetes, but the expectation of success is not warranted so long as it rests on the belief that those parts contain abnormal cavities during life. "Experimental faradisation of the liver," the alternative suggested, promises quite as well. The reader, after all, will not consult this work when he desires to refresh his pathology, and if we have thought it our duty to point out defects of this kind, we have every wish to give the authors credit for the good work that they have done. This is for the most part of a clinical kind, and it could not have been done better. The book will be found to be truly exhaustive from the point of view of treatment, and under each heading there are the fullest directions for those who will follow them. Dr. Rockwell is well qualified to hold his own opinion as to matters of fact; and it is interesting to read that "there are a number of methods by which the superior, middle, and inferior cervical ganglia of the sympathetic may be demonstrably affected by a galvanic current." The English reader will decide for himself whether the effects of sub-aural galvanisation may or may not with good reason be referred to the sympathetic.

The best parts of the book are perhaps those which refer to general electrification, whether by the bath or in other work. There are here suggested abundant materials for thought and further experiment, and at the same time a large number of facts, which, being well attested, are in the present state of science of great value. Scattered throughout are many practical hints which will be read and remembered with advantage. These are often of general interest, and are the welcome contribution of a well-stored practical mind. We would mention especially a good and simple plan for applying dry heat to a limited surface (page 485). The chief interest of the book is, of course, of a medical kind, but it deals also at considerable length with the surgical applications of electricity. It is well written and well illustrated throughout.

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[3] Ibid., vol. i. 1881, p. 731

The Surgical Treatment of Neuralgia of the Fifth Nerve. By WILLIAM ROSE, M.B., B.S. Lond., F.R.C.S., Joint Professor of Surgery in King's College, London, and Surgeon to King's College Hospital. London: Baillière, Tindall and Cox. 1892.

THIS is a reprint of Mr. Rose's Lettsomian Lectures delivered before the Medical Society of London in January and February last, and published at the time in our columns. The subject dealt with is one of great importance, and Mr. Rose has produced a very interesting and valuable *brochure* on it.

Ambulance Lectures. By G. H. DARWIN, F.R.C.P. Edin. Manchester: J. E. Cornish. London: Charles Griffin and Co.

THIS little book, written expressly for the lay student, contains several useful hints and suggestions which cannot fail to be of service to students of ambulance work. The first lecture deals with the Structure and Functions of the Body in a style almost entirely free from technical terms, and the succeeding lectures treat in an equally interesting manner of the subjects dealt with in "first-aid" books. The work is copiously illustrated, a special feature being a diagram with instructions for rendering first aid in cases of fracture in the lower limbs of females—an accident always presenting more or less difficulty to the mind of the ambulance student. Many suggestions are made for the safe transport of the sick and injured; and diagrams, illustrating methods by which stretchers may be improvised from materials likely to be at hand, occupy several pages of the work.

This is notably the case in the chapters on growths of the tonsils, palate and pharynx. The author here shows extensive acquaintance with the general literature and practice of surgery. The operative measures are generally well described, and the risks of what are often termed "minor" operations are well estimated. We are pleased to see that an author of this experience speaks forcibly of the risks of hæmorrhage from the ordinary operation for tonsillotomy in the adult. There is perhaps a tendency in this part of the work to advise operations for conditions which may as well be left alone, and which, the author plainly hints, usually give trouble in neurotic and hysterical individuals. He has, however, the good sense to disclaim operations by caustics and cauteries, and to give the preference to those methods which are least likely to lay the surgeon open to the charge, of providing a remedy which is worse than the disease.

The first section, comprising 433 pages, is devoted to affections of the fauces; the second section deals with the anatomy and diseases of the larynx; while the third enters into a full description of the external operations of the throat, such as tracheotomy and pharyngotomy. The chapters of the third section are all excellent, and eminently practical. Seeing that the author has entered into the operation of tracheotomy with such detail, we think he should have given his experiences with regard to the after treatment at greater length. Little is said about those difficult cases which occur in children where, for no obvious reason, it seems impossible to give up the use of the tube, and which are always embarrassing and sometimes fatal. Some excellent coloured illustrations of the operations of tracheotomy and excision of the larynx are to be found in this part of the work. The illustrations generally are well executed, though some of them, as the drawing of lupus of the fauces (Fig. 31), would be difficult to recognise. The volume, which is excellently bound and printed, may be advantageously studied by the general surgeon, for it deals with many matters which must occasionally come under his hands. For a book of reference it is also useful, and to all classes of readers we heartily recommend it.

New Invention.

"THE LAURA BED."

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 10, 1892.

THE measures of protection against cholera which England has now long adopted and which she has from time to time matured and improved have during the past few weeks been put to a somewhat important test, and the result has been one that is eminently satisfactory from the public health point of view. Cholera has been brought to our shores at about a dozen different points; in each case the disease has been limited to those who have arrived from infected places abroad and no spread has taken place. In two respects our measures of defence were found to need strengthening. Our system of keeping people arriving from infected places under some observation for a few days had not sufficiently provided for the event of an immigration of aliens not knowing where to lay their heads; and the circumstance that Hamburg ships replenished their water-supplies from the cholera-polluted Elbe was also a contingency that could hardly have been anticipated. In both these respects the regulations of the Local Government Board have been strengthened; a further Order has just been issued extending the requirement as to giving addresses to those arriving not only in infected ships but from infected places; and we have now breathing space in which to take count of that which has passed and of that which may again be in prospect for us. In one respect there has been misapprehension. It has been assumed by some sanitary authorities that the mere fact of our system of "medical inspection" exhibiting certain interstices through which cholera might creep was sufficient to warrant them in crying out for a return to quarantine restrictions, some wishing that all vessels from infected places should be kept in detention two days, others three and four days, and others five days. As to this demand, we would, in the first place, point out that the English system never laid claim to any infallible pretensions to keep cholera altogether out of the country. It has always been assumed that the disease might, as it were, filter through the meshes of our port sanitary administration, and hence, after this first line of defence, our trust lay in our greatly improved sanitary administration, and in the fact that the means by which cholera can spread in our climate have been so largely removed. In short, the ports were to do their best and the inland districts were to remember that they might have to take up the task.

The alternative of quarantine is one which we can hardly contemplate. Taking France alone and assuming that a few of its north-eastern ports are infected with cholera, the task of imposing quarantine would be simply herculean, even if possible. The thousands who travel weekly between France and England would have to be kept either in harbour or riding out at sea; they would have to be fed and cared for; if cholera appeared amongst them the sick would either have to be landed or left to diffuse the infection amongst their miserable fellow passengers, under conditions most likely to favour the spread of the disease; and lastly, a system of surreptitious landing of those who could pay to come ashore would rise up all round, be in active working every night, and reduce the whole system to a hollow farce. And yet there are sanitary authorities who, after having administered our Public Health Acts for some five-and-twenty years, and having watched the immense reduction of mortality which has followed on the removal from their midst of those conditions which are essential to the spread of cholera, are now, in a state of panic, desirous of reverting to a system which has only to be applied in order to be found wanting, and which would, more than anything else, tend to discourage sanitary progress in our midst. True, the system might answer to some extent if it were applied to only one or two special ports; but if it were extended to every port, as it must be if applied at all, it could do little short of bringing discredit and obloquy with it.

What, then, is our duty? Clearly, it is to go on working on our well-established principles. The effort made in some of our port districts has been an arduous one; in some it has had to be stimulated by the visits of medical inspectors of the Local Government Board; but, on the whole, the difficulties have been admirably faced and met. We have, however, the future to contemplate. We have all along expressed the opinion that whatever emergency we had to face this autumn it was by no means impossible that we might have a much greater one to cope with next year. This year our ports have not failed in their out-post service. Next year they may possibly be less successful, and hence it is that we would urge all sanitary authorities, and notably our inland authorities, to make preparations to deal efficiently with imported cholera. If they do, they may succeed as well as our ports have succeeded. After all, it is not cholera so much that has to be feared, it is rather the filth which may serve as a breeding-ground for imported infections, whether of cholera or of any other similar disease; and any progress that is made by way of ridding districts of their insanitary conditions during the next six months will tend to lower the general mortality, to reduce the fever mortality, to increase health and vigour, to add to the amount of remunerative labour that is practicable, and so to augment the prosperity of the locality which makes such progress.

There is perhaps no work that more needs to be carried out maturely and without haste than that of providing means of isolation for first cases, whether of cholera or of other spreading disease. Authorities who wait till disease is actually at their doors have again and again put up hurried structures which, instead of meeting the more permanent requirements of their districts, have, on the contrary, served to deter people from using isolation hospitals. Emergency hospitals are only fit for emergencies; the very emergency which it is hoped they will meet often necessitates their being large and costly and yet very inefficient; and a number of them have been finished just too late to be of any service at all. Many sanitary authorities have been urged by their medical officers of health to be prepared in advance with the means of coping with first cases. This is essentially a time in which this advice, if ignored hitherto, should be heeded. There are doubtless many districts in which it would be impracticable to provide in advance, and for all portions of it, the means of isolating cholera cases. Cholera patients cannot well be removed to a greater distance than a mile at the most; but, on the other hand, a single, small, properly constructed hospital may at any moment save a district from the spread of the disease, it will always be available for diseases other than cholera, and it will serve as an administrative centre whence outlying and temporary isolation arrangements can be carried out. In short, what we wish to impress upon sanitary authorities, whether port, riparian, or inland, is that during the coming winter they should mature and carry out a system of sanitary defence which will enable them to meet cholera if it comes, and which will be of inestimable service to their districts even if, as we earnestly hope, we are spared its visitation.

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WE are in the mental habit of localising "misery's darkest cavern" in the slums of London. The study of a letter in the *Northern Chronicle* of Inverness by Mr. Ross, a district medical officer of health in Ross-shire, in answer to correspondents who maintained that the proposal for a Ross-shire hospital for treating and isolating infectious cases was unnecessary and impracticable, may lead us to doubt whether it should not be located in very different regions. He gives us a peep into the problems of misery which the medical officer of a parish in the Highlands or islands of Scotland has to face and solve almost unaided and in physical and hygienic circumstances which would be the despair of ordinary men without the genius of humanity that is so fostered by the pursuit of the medical calling. The lot of a medical officer of the East-end of London, within measurable distance of a State or rate hospital for infectious diseases, or the general hospitals of London, is not to be compared with that of his colleague in such cases as the following, culled out of an experience of many outbreaks of severe infectious disease in one of the eleven districts for which an infectious hospital is proposed. Typhus fever attacks a family of eight—father, mother, and six children, the youngest eighteen months old. In a few days all are stricken except a girl of ten. The house—a wretched crofter's house—is of the poorest and most uncomfortable description. One patient occupies each of the three beds. The other four lie in their clothes on a little straw on the cold, damp, earthen floor. All necessaries and comforts are wanting. No relative or neighbour can be got to enter the house for love or money, and Mr. Ross points out that no nurse could be accommodated in such a house or would accept the duty, which, indeed, would almost certainly involve another case of typhus fever and a great addition to the difficulties of the poor medical man. We can only afford room for another illustration of the plight of the poor in these districts and of the unequal [illegible] by society and its sanitary authorities [illegible]. Only two years ago Mr. Ross had to [illegible] crofter's wife and her three children suffering from [illegible]. The other inmates of the house were the [illegible] beginning to sicken, and the mother-in-law. The [illegible] the eighth month of pregnancy, and on the [illegible] of the disease labour came on. Mr. Ross had [illegible] to attend her both as doctor and nurse [illegible] and lay perfectly helpless, covered with a blanket on a little straw on the damp earthern floor, and in a chamber reeking with fever emanations. His predecessor, attending a family suffering from typhus fever in a house seven miles from his surgery, one day on his visit found the mother dead and the baby sucking her breast. No one could be got to take charge of this poor waif, and he wrapped it in his coat and took it home in his gig and had it nursed, with the result that his wife, children and servants sickened with the disease. We feel bound to accentuate and publish such tragedies of suffering and abandonment on the one hand, and of medical heroism and duty on the other. In other cases the medical man has had to act not only as professional attendant and as nurse, but as undertaker too. Scotland is a religious country, but it is open to the charge of expending too much energy in ecclesiastical controversy while omitting the weightier matters of the law, of which we would say that immediate provision of hospitals for the infectious sick is one of the most urgent. But it is not only the infectious sick. In one sense they are, perhaps, better off than others. Forsaken by all others, they are visited by the doctor who is supposed to do the work of the Good Samaritan for relatives, churches, and the whole community on a very inadequate pittance at the great risk of his own life. This visit is like that of a veritable angel of mercy. But, unfortunately, his powers are limited, and so are the means of the poor, from which it follows that a large proportion of these, at least in the northern parts of Scotland, die without any medical attendance at all. In his report for 1891, as medical officer of health for Ross and Cromarty, Dr. BRUCE gives some interesting particulars on this subject. In Applecross, of 70 deaths in five years 57 were uncertified—that is to say, 57 of the 70 patients died without medical attendance; in Glenshiel, of 27 deaths 15 were uncertified; in Gairloch, of 304 deaths 200 were uncertified; in Kintail, out of 59 deaths 34 were uncertified; in Kinlochlinchart, of 37 deaths 14 were uncertified; in Killearnan, of 82 deaths more than half were uncertified; in Kincardine, out of 85 deaths 40 were uncertified; in Stornoway, the largest of all the registration districts, with a considerable mortality from phthisis, diphtheria and pneumonia, one-fourth of the whole number of deaths were uncertified. Dr. BRUCE, with characteristic sense, emphasises the seriousness of such facts, and points out that in outlying districts many die who should not. It is easy to be satirical over the limitations of the power of the medical art, but the inhumanity of arrangements which allow people to die without the chance of medical relief is obvious. Little imagination is needed to conceive the unrelieved, but relievable and even removable, suffering which is endured by those who in a religious country, with two or three churches in the smallest parishes, are allowed to die untended.

We commend such facts to the serious reflection of the Scottish people and of the Secretary for Scotland of a Government which states its intention to grapple with the social problems of the poor. A better house accommodation, consistent with decency and health, a better medical service in remote parts where urgent suffering can at least be mitigated, and a place of refuge and retirement for those attacked with infectious diseases, are measures that would redound to the credit of any party, and for which we shall look the more from a Government that has had these urge to place a member of the medical profession in responsible relations with the work of local government.

We have not in these remarks said much about the injustice and hardship to medical men of such arrangements, and of expecting them to do the duty of the whole community to sick and dying people. The point is too obvious to need to be laboured. Reasonable risks are a part of the undertaking of any medical man who enters the ranks of the profession, just as the risks of war are undertaken by a soldier; and they are undertaken cheerfully. But the medical practitioner should not be expected to make bricks without straw, and the risks he has to undergo should be mitigated by the provision of every help that can be supplied. His remuneration should be generous, and enable him to go over moors and ferries with despatch, and to supply his mind and his surgery with every book and every appliance that would compensate for the distance of hospitals and libraries. Such men are the very torch-bearers of truth and render help in remote parts and parishes. They need to be multiplied and to be better paid. And such multiplication and better payment are as much the duty of a country bent on advancing civilisation and pure and undefiled religion as the provision of fit hospital and house accommodation.

"ITS field is the world" may be said of the healing art more truly than of any other liberal calling. As civilisation expands and covers an ever wider area of the earth's surface it invites to the most distant regions the accession of visitors from its great centres, who gradually form in those regions the nucleus of a resident population. In this way the English-speaking race may be found planted all the world over, in latitudes high or low, but particularly in that temperate or even subtropical zone which combines with easy access from England herself the climatic mildness and steadiness desiderated in the winter months. This combination is best realised on the shores of the Mediterranean, not only on the seaboard of southern France or northern Italy, the so-called Riviera Ponente and Riviera Levante, but on that of northern Africa from Tangier in the west to Lower Egypt in the east. British residence, in fact, is made possible along the Mediterranean by the admirable means of communication that has been organised in response to annually increasing demand, and few moneyed or leisured people, few even of the busy professional or commercial classes, but find it conducive to health, to longevity, or to more sustained and better work to spend some part of the year at this or that health resort or sun-trap so plentifully sown around the "midland sea." And when "the winter has past and the spring has come again," another series of climatic changes is open to a fresh contingent of seekers after rest and air, until summer beckons these in turn from Mediterranean island or Italian lake to Swiss mountain or upland valley, there to enjoy the keenest, most exhilarating and restorative of atmospheres, under a solar warmth that rarely disappoints them. With all this movement of English-speaking population, the services of the duly qualified practitioner are in yearly greater request, insomuch that he can fill up his whole twelvemonth, with hardly an unemployed interval, in ministering to the wants of a steady *clientèle*. In southern Europe especially, there is a permanent staff of British practitioners at all the chief winter cities, who, after the close of the season, accompany the stream of compatriot travel as it moves northwards from African or Spanish or Italian sun-baths to those sub-Alpine or Swiss resorts to which the changing season attracts it. And an excellent division of the year it is, both for patient and practitioner, that of a late autumn, a winter and an early spring spent, let us say in Rome or Florence, in Naples or Palermo, followed by a late spring, a summer and an early autumn passed in the Alpine uplands or valleys, or in the Black Forest, or in the so-called German Switzerland.

Several conditions are necessary for such a career as is thus opened up to the British medical man—conditions which are neither many nor formidable. In the first place, he must acquaint himself thoroughly with the hygienic character of the place in which he settles. He must not only have made a perfect study of its climate, of its local sanitation, including its water-supply, its drainage, and its dietetic resources, but he must have indoctrinated himself, by association with the consultants native to the locality, in its soundest medical traditions, especially in the etiology, the course and the treatment of the maladies indigenous to the soil. A practitioner in Rome, for instance, would often find himself at an awkward disadvantage if he had not previously familiarised himself with the local malaria, with the best scientific findings as to its nature, its origin, its semeiology, its periodicity, and its response to clinical intervention. To attain this familiarity he must have put himself in friendly relation with his professional brethren, Italian as well as British, who have had the local experience he desiderates, until—in longer or briefer time, according to his vigilance and application — he assimilates the knowledge they possess and so becomes capable of relying on his own judgment and on his own methods. To profit by such neighbourly intercourse in, say, an Italian winter city he must have what is called a "working knowledge" of the language, not difficult to acquire from his previous grounding in Latin and from his usually fair command of French. By this means he is able to meet the native physician or surgeon in consultation, and with mutual advantage to compare impressions or views as to the patient. In these circumstances, moreover, there is much less danger of those misunderstandings so apt to result in the interposition of obstacles to practice—obstacles imposed on the British practitioner by the civic authorities, and occasionally, we believe, at the instance of a jealous colleague with whom a few minutes' conversation in his own language would have removed any cause of offence. As a rule, however, except perhaps in Switzerland and now and again on the French Riviera, the feeling between the British and the native practitioner is a friendly one, as befits members of a liberal and enlightened calling. In Italy particularly the *entente cordiale* between our compatriot representatives and those of the peninsula is very real, and seldom, indeed, does it occur that any difficulty in the way of practice is imposed by civic authority at the instance of jealous colleagues. Even on such occasions the only trouble to which the British practitioner has been subjected is that of submitting his diploma to municipal inspection in the city where he has settled down.

Some British practitioners in continental countries have taken the laudable course of qualifying at one or other of the [illegible] medical schools, a course which invariably silences any spirit of detraction or jealousy on the part of their foreign *confrères*. Not only for this reason, but for the facilities it affords for scientific coöperation in the study of disease is such graduation to be recommended. Nor need the steps taken with that view be difficult or numerous. Sometimes the presentation of a thesis on a subject of practical or theoretical interest suffices, in conjunction with duly verified home qualifications, to procure academic recognition from the foreign school. Having received the academic *imprimatur* of the country of his professional adoption the British practitioner has before him a career in many ways to be envied. The public to which he appeals, as the facilities of travel and the comforts of residence steadily improve, is always on the increase. It forms, almost invariably, an agreeable *clientèle* drawn from the well-to-do and presumably the cultured and refined classes. Not only on the French and Italian Riviera, but in the winter cities of the latter country itself these resorts are for three or four months of the year really "suburbs of London"—the English-speaking population of Florence, for instance, in the spring and early summer, averaging from 4000 to 5000. A large proportion of these at the close of April or the first weeks of May is found resident at the Italian lakes or in such [illegible] resorts as Lucerne or the lake of Geneva, whither the practitioner, if not in need of absolute rest, may also locate himself; or, later in the season, he may resume active work in such busy hives of holiday seekers as the Engadine or the Austrian or Bavarian Highlands. His success in such a division of the twelve months may well induce others to do likewise; and if competition, in this as in similar fields, divides remuneration, it is also to be remembered that the public for whose wants he caters is equally a multiplying one, and that professional skill and acceptance have their chances abroad as much as at home. One drawback, which used to act as a deterrent to such a career, especially for the scientifically minded practitioner, is rapidly becoming minimised, and that is the lack of the clinical opportunities which our great cities afford. But means of communication come in to obviate this difficulty like so many others; and the British practitioner in the autumn, particularly by those *Ferienkurse* in vogue not only in Austria and Germany but even in the north Italian schools,' can keep himself abreast of the latest developments of his art in theory and practice. There is, indeed, no reason why he should not be found in every continental resort of the English-speaking public, or why, as these resorts multiply, he should not, in equal proportion, come to the front. It is a fact that many places, particularly on the Neapolitan and [illegible] littoral, would even now be rejoicing in an English-speaking colony if only, in addition to the attraction of a [illegible], there were also a duly qualified British practitioner within call.

An Italian correspondent writes:—"The University of Siena has just witnessed the appointment to the [illegible] of the Cavaliere Professor Domenico Barduzzi, [illegible] to the chair of Dermosyphilopathy. He was in an [illegible] over the other candidates. His energy and [illegible] will, it is expected, soon make themselves [illegible] in the increased prosperity and efficiency of that [illegible]."

Annotations.

"Ne quid nimis."

THE INTERNATIONAL MEDICAL CONGRESS OF 1893.

AN Italian correspondent writes: "I am now in a position to give the precise dates of the meeting and rising of this great assembly. After due consultation with representatives of the leading foreign nationalities the Organising Committee has decided that the inauguration of the Congress shall take place in Rome on Sept. 24th, 1893, and that its labours shall conclude on Oct. 1st following. The adhesions received by the committee from all the chief centres of medical education, theoretical and clinical, throughout the world, have surpassed its expectations, while nothing could exceed the cordiality of tone and loyalty of professional feeling with which these adhesions were conveyed. So far as the representation of the healing art in all its ramifications is concerned, it may now be regarded as in every sense complete, and the committee can already look with justifiable satisfaction on at least one page of its preliminary work as closed. The alacrity, indeed, with which the invitations issued to foreign teachers and consultants have been responded to seems to contrast somewhat with the indifference of not a few of the Italian leaders of the profession to the same appeal. 'Before so signal a success abroad,' says the *Opinione*, 'the medical men of Italy cannot and ought not to remain unconcerned. To them belongs the duty of showing by their numerous attendance that they have fully taken in the high scientific and national importance of next year's Congress. It is for this reason that we gladly share the solicitude with which the Organising Committee addresses its Italian colleagues who have not yet sent in their adhesion to the Congress, and with which it appeals to them to intimate their intended participation in its proceedings without delay.' As usual on such occasions, the nearer to the centre of interest the less the enthusiasm shown in it; but it is reasonable to suppose that ere many weeks elapse the Italian contingent, already considerable, will not prove disproportionately short as to the attendance, in point of number and distinction, expected of it. For all who desire further information, or who have yet to intimate their intention to assist at the Congress, I may add that the proper quarter to communicate with is La Secreteria Generale del XI. Congresso Medico-Internazionale, presso la Clinica Medica, Ospedale di Pammatone, Genoa."

THE EVOLUTION OF LANGUAGE.

IF we may be guided by some recently published observations of Professor Garner of Virginia another connecting-link between man and the lower animals is to be traced in the possession by the latter of something like a faculty of articulate speech. Even the chatter of monkeys, if methodically studied, becomes in a degree intelligible—that is, to the human mind. Among these animals themselves it is, according to the observer above named, not only intelligible but understood. He has noticed in their utterances evidence of a purposive character. Signs expressive of address accompany appropriate sounds, and are able to excite responsive actions. Simian speech, in fact, is associated with a form of delivery. It is different for different tribes, and occasionally the language of one is partially acquired by members of another family. The sounds uttered by monkeys in one quarter of the globe, when reproduced by the phonograph, were evidently recognised by animals of the same species in another. Professor Garner, we understand, intends prosecuting still further these interesting studies into what we may call the basis of articulate speech, and will supplement his observations on captive quadrumana by inquiries into the gorilla vernacular as it exists in the forest fatherland of the king of apes. His later communications will no doubt be awaited with interest, and may be expected to confirm still further the belief he evidently holds as to the evolution of human speech from an aboriginal, sub-human and rudimentary type. We may be allowed to risk a further suggestion. May not the calls of other animals, the songs of birds, the hissing of reptiles, and the whole and varied catalogue of sounds known in the lower creation be regarded as representing so many stages in the development of language? If Professor Garner's researches, so far as they have gone, indicate anything, it is the probable truth of this assumption.

TEA AND TOBACCO IN WORKHOUSES.

There is nothing more gratifying to human nature than to have liberty in the use of a valued luxury without either a dread of after consequences or a conscientious prick at heart on the ground of self-indulgence. Happily, we are not without luxuries which can be thus enjoyed, the observance of moderation being always understood. Among them we may number the cup that cheers but not inebriates, and also that much valued solace of tired leisure—tobacco. So familiar to our minds do both appear that many of us would include them rather among the necessaries than the amenities of life. Guided no doubt by such considerations as these the Wandsworth Board of Guardians have introduced a novelty in their system of supply which cannot fail to be warmly appreciated not only by the poor under their charge, but by all who are wisely considerate of the reasonable preferences of appetite. From this time forth every male inmate of their union over sixty years of age will be allowed one ounce of tobacco per week and every woman a daily half-pint of afternoon tea. The tobacco privilege has also been conceded by the parish of St. Olave's, Southwark, and by some other boards of guardians. These kind and inexpensive grants will do something to encourage a belief in the reality of public charity. Given under the above-mentioned conditions they can hardly be accused of exhibiting a pauperising attractiveness. By engendering contentment they will do something to brighten the life, perhaps even to amend the health, of the older workhouse inmates, and we would therefore commend the example of the above-named parishes to others equally open to reason and reform, though not yet so forward in liberality.

ALUM IN BAKING POWDER.

On Aug. 25th at Ilkeston, a grocer was summoned under the Food and Drugs Act on two charges for selling baking powder containing injurious ingredients. From the evidence of Mr. Hehner, the powder in question contained 35·5 per cent. of alum. The alum was used instead of tartaric acid to expel the carbonic acid from bicarbonate of soda. Scientific witnesses, both expert analysts and medical men, were not agreed as to whether the powder would prove injurious when employed to "raise" bread. It was urged for the defence that the chemical process which followed on mixing the powder with the dough rendered it entirely harmless. In the end the summons was dismissed, the magistrates holding that baking powder was not a food and that the powder in question was not sold to the prejudice of the purchaser. This decision is to be regretted. Practically it sanctions the use of alum in a powder which is only used for one purpose—that is, to give porosity and lightness to bread. Bearing this in mind, and not supposing for a moment that baking powder is *per se* a food, it is a moot point whether the powder in question could not be regarded as being sold to the prejudice of the purchaser. It consisted of alum and bicarbonate of soda. These substances when moistened interact, carbonic acid gas escapes and there remains a residuum of sodium sulphate and alumina. Apart from the fact that there is formed by this double decomposition a salt of strong purging qualities—viz., Glauber's salt—it is important to consider what is likely to be the action of the newly formed alumina. It is well known that alumina when precipitated in the presence of certain soluble matters will render them insoluble. This is especially the case with soluble nitrogenous matters. In the chemical treatment of sewage, for example, a large proportion of the soluble nitrogenous matter is removed by adding to the sewage a mixture of sulphate of alumina and an alkali (generally lime). Alumina as a gelatinous precipitate is thus produced, which then, combining with the organic matter in solution as well as that in suspension, subsides as a "sludge" in the precipitating tanks. The same method is adopted for fixing otherwise soluble colours or dyes, the alumina compound formed giving rise to the so-called "lakes." Further than this, alumina combines with soluble phosphates to form insoluble phosphate of aluminium. Surely, in the light of these facts, it is seriously to the prejudice of a purchaser if, when he buys a baking-powder, he receives one which is calculated to reduce very materially by reason of the nature of its ingredients the food value of his "staff of life" by rendering both the nutritious and the bone-forming constituents in it insoluble and indigestible. If baking powders must be used, alum should not enter into their composition, especially as there are other comparatively inert and equally effective agents procurable. When a baker uses alum in his bread or flour, proceedings are successfully taken against him under the Food and Drugs Act, and it is reasonable to expect that the same Act should protect the purchaser against alum introduced into his bread in any other form, not excepting that of a baking powder.

PUBLIC HEALTH IN SWITZERLAND.

The "playground of Europe," writes a holiday contributor, "has lately become its sanitary asylum since the outbreak of cholera on the North Sea and Gallo-Batavian coasts has sent the moneyed classes of those regions to the Bernese Oberland. As I write, however, under date the 5th inst., a sensible diminution in this invasion of the panic-stricken has been registered in Switzerland—a diminution largely due to the announcement that in one of the most frequented hotels in Zurich a case of cholera had occurred. But an official inspection of the hotel referred to has dissipated this report, reducing it to the prosaic truth that fumigation, as a disinfecting precaution, had been practised on sundry Germans hailing from Hamburg. No case of death from cholera, no case even of illness from that cause, has been officially recorded in the Confederation. Meanwhile prompt effort has not been wanting on the part of the Swiss authorities to minimise the chance of the introduction of cholera. *L'état général* of the public health has just (5th inst.) been announced by the Bureau Sanitaire Fédéral as 'excellent,' but, all the same, the measures taken by the Bureau for the safeguard of the sanitary position are exhaustive and vigilant. M. Dreyfus, *Chef du Bureau d'Emigration*, is now in Bâle, armed with full powers to send back across the frontier the emigrant trains arriving by the Chaumont route. Some 250 to 300 passengers by this train were stopped by M. Dreyfus at the frontier; among them the Jews were in a minority, the bulk being composed of Germans, Tyrolese, Italians, and even Americans. On examination, a considerable number had to return whence they came, in some cases leaving their effects behind them; while advertisements, chiefly in the press, gave prominence to the fact that arrivals by emigration trains from Atlantic or North Sea ports cannot possibly be admitted. The weather in Switzerland, however, has been such as greatly to reduce the chances of an invasion of cholera. Since the 3rd inst. wind and rain have been frequent, the temperature has fallen, and, in Italian Switzerland particularly, thunderstorms, followed by rain, have given a distinct freshness to the air. Which means that the subalpine lakes—the Laghi Maggiore, Como and Garda—must attract daily larger numbers of visitors, who, after their *villeggiatura*, will find their way to Venice, Florence, Siena, or Rome, in none of which resorts has there been, or is there likely now to be, the slightest *soupçon* of cholera."

A RESCUE RACE AT BROADSTAIRS.

SEVERAL years ago Dr. B. W. Richardson, during one of his seaside holidays, instituted what he called a "Rescue Race" in connexion with a regatta at Clevedon. Since then one of these trials of skill has been carried out each year as part of some regatta programme. Last Monday week he organised a rescue race at the Broadstairs Regatta with great success, the details being conducted under the able superintendence of Dr. Walter, vice-chairman of the committee. The rescue race is intended to encourage boatmen at seaside places to learn to put out rapidly to sea in cases of accident and to rescue drowning persons who have fallen into the water. A number of floating dummies are thrown out of a boat stationed 440 yards from the shore, and a signal of distress being fired from the boat, the boatmen on the shore rush to their boats, two men in each, row to the point of danger, pick up the floating bodies (a sack filled with shavings), and return to the shore as rapidly as possible. The first three who land their body get the prizes according to priority. In the present instance the first prize men performed their task within a period of four minutes from starting from the shore to returning to it; the second did it within four minutes and a half; the third within four minutes and thirty-five seconds. The race created the liveliest enthusiasm not only for the skill it called forth, but for the practical usefulness of the effort. A rescue race was also run this year at the regatta at Swanage for the third time.

SENSORY SYMPTOMS IN VISCERAL DISEASE.

THE localisation of pain derived from derangement of internal organs is a subject of some interest, but one which has not been much studied in systematic fashion. Dr. James Mackenzie of Burnley has, however, done something to remedy this deficiency in a paper which he contributes to the *Medical Chronicle* (August, 1892), based on the results of several years' careful record of subjective symptoms. He wisely cautions against the reception of vague statements on the patient's part as to previous impressions, and of course excludes from his study of the subject the complaints of hysterical subjects and cases of actual disease of the nervous system. In diagrammatic form he represents the areas over which pain is commonly felt in disease of the heart, of the œsophagus, stomach, liver, intestines, uterus and bladder, and ample confirmation of the correctness of his [illegible] would doubtless be given by most clinical observers. Thus the seat of cardiac pain is represented as extending across the middle of the sternum towards the left arm; that arising from disease of the œsophagus, [illegible] about the xiphoid; of the stomach, at the epigastrium [illegible] towards the left across the lower ribs; of the liver, [illegible] below the stomach area and extending to the [illegible] small intestines, around the umbilicus; of the [illegible] and uterus, across the lower abdomen about [illegible] and of the bladder, in the hypogastrium. He points out that pains may radiate from these [illegible] by the course of nerve tracts intimately associated with the spinal origin of the nerves supplying the skin at the seat of the central pain. Another matter of interest is that the tenderness so often associated with the pain is seated not in the affected organ or in the skin itself, but rather in the subcutaneous tissues; and, what is, we believe, a new point, there is often tenderness over the vertebral spines, corresponding to pains in the back associated with visceral disease. These areas of spinal tenderness embrace from the first to the fourth dorsal spines in cases of cardiac pain, from the fourth to the eighth spines in gastric pain, and from the eighth to the eleventh in hepatic pain, the area of uterine and rectal pain being, as is well known, found over the sacrum. Sometimes areas of hyperæsthesia, together with increased activity of cutaneous reflexes, may be defined, and even anæsthetic patches; whilst persistence of the former may be taken as a guide to the persistence of the pain-producing cause. Dr. Mackenzie enters into fuller detail, with illustrative cases, of each of these points, and it may be remarked that as regards the liver and kidney he has not been able to associate pain with any parenchymatous disorder, but only when the ducts are involved, as in gallstone, renal calculus, pyelitis, &c. At the close of the paper he draws attention to a few points arising out of the study of the subject, such as the fact that pains referred anteriorly are mostly of an intermittent character, whilst those felt posteriorly are more constant; that the pain arising from single and unilateral organs is mostly felt across the middle line of the body, and that in every case muscular fibres are involved. He points out that it is not quite clear how the stimulus is transmitted to the cells in the cord connected with the spinal nerves involved. In the case of the diaphragm this is doubtless through the phrenic nerve affecting the origin of the fourth cervical nerve, and hence the shoulder pain in these cases, but in visceral affections the path must be through the sympathetic connexions with the spinal cord. The pain is not in the viscus itself, but is due to the stimulation of sensory centres in the cord in connexion with the sympathetic branches supplying the organ, whilst the irradiation of the sensory phenomena, like that of the distribution of herpes zoster, follows the area of distribution of sensory filaments proceeding from the stimulated spinal cells.

RECREATIVE EVENING CLASSES.

MOST persons who have given any thought to the subject must have felt that a system of school instruction which is virtually terminated at the age of thirteen, cannot pretend to do more than provide for elementary education. During the years of youth which immediately follow much of what was learnt must be forgotten amid the more practical anxieties of learning a trade and of learning how to live by it. During this period also it is even more difficult to find time or opportunity for self-culture outside the round of daily occupation. There is clearly therefore an opening here for further educational organisation, and this has been occupied with no small measure of success during the past few years by the Recreative Evening Schools Association. The name of this body is fairly descriptive of its aims and its constitution, but some particulars of its past history and its prospects, as noted in a recent report of its sixth annual meeting held on the 12th of July last, are interesting nevertheless. The work of the Association consists, as we have indicated, in supplementing the instruction afforded by ordinary board and voluntary schools by studies more advanced and more practical and in using a method less precisely scholastic. It is carried on in the schools above mentioned, in playgrounds and other suitable premises. The course is a full one and comprises, in addition to history and geography, such subjects as needlework, dressmaking, cookery, wood-carving, shoemaking, singing, gymnastics, shorthand, bookkeeping, French and a variety of others. The [illegible] committee note that during the past seven years not only has there been a large increase in the number of evening schools under inspection by Government inspectors, but that the number of pupils on the register has been nearly doubled, while that of attendances and of pupils qualified for examination by attendance in 1891 was more than twice what it was in 1885. In the earlier year the average attendance was 24,233, in the later 51,974. The new movement, therefore, has evidently taken root and is growing, and the committee feel the more encouraged to call upon School Boards and managers, County Councils, and all who take interest in the well-being of the community, to aid them in their useful work. We are pleased to see that pupils contribute somewhat in fees. This is only right. Surely, the enjoyment of such privileges should be recognised and valued no less as a private boon than as a public trust.

THE CHAIR OF SURGERY AT GLASGOW UNIVERSITY.

A TESTIMONIAL numerously signed by the physicians and surgeons of Glasgow and throughout the United Kingdom generally has been sent to the Secretary of State for Scotland on behalf of Dr. William Macewen, who is, we understand, to be a candidate for the chair of Surgery in Glasgow University—at present vacant by the lamented death of Sir George Macleod—urging in his favour that he has been a surgeon on the staff of the Glasgow Royal Infirmary for nearly seventeen years, and the manner in which he has devoted his energies to the advancement of scientific surgery during that period. In proof of this they refer to his masterly work on osteotomy, and to the fact that he is the pioneer of brain surgery, which has been the means of relieving a class of maladies hitherto looked upon as intractable. Dr. Macewen also has the honour of being the first surgeon to successfully transplant bone, a case remaining unique in the annals of surgery. The memorialists express their belief that this eminent surgeon's appointment to the vacant chair would secure the approbation of all competent to form an opinion on the matter.

MISSED LABOUR IN ANIMALS.

WE referred in our issue of Aug. 27th to a case of "missed labour" occurring in a mare, particulars of which were brought before the members of the Yorkshire Veterinary Medical Association by Mr. Philip Deighton of Riccall. A resolution was passed requesting us to express an opinion on the case, particularly in its relation to human obstetrics. Six years ago the mare was known to be in foal, yet labour never came on from that time to the time of her death, which occurred on June 3rd last, from strangulation of the intestine. During the whole of this time she was under observation, so that the case cannot be explained by assuming that she was delivered of the foal she carried six years ago and that the one found in utero at the time of her death was the result of a subsequent pregnancy. A careful post-mortem examination seems to have been made and the record of it distinctly states that the skeleton of the foal was reached "on opening the uterus," also that the uterus was about the size of "an ordinary iron bucket" and almost of "the shape of a champagne bottle"—that is, of a symmetrical figure. There is no mention of any adventitious cavity communicating with that of the uterus, while it seems clear from the description that the cavity of the uterus was *uniformly* enlarged and to an extent sufficient to entirely contain the skeleton of the foal. Mr. Deighton's account of the case is so precise that there seems to be no reason to doubt its being a genuine example of "missed labour." Formerly the occurrence of "missed labour" in the human female was generally believed in by obstetricians. That is to say, it was accepted as a possibility that a woman might go the full term of pregnancy or thereabouts, that the fœtus might die and then be retained in the cavity of the uterus for a longer or shorter period—perhaps for many years. It is now, however, generally recognised that the large majority of such cases, if not indeed all, are examples of extra-uterine pregnancy. Certain it is that some cases of supposed "missed labour" have, on post-mortem examination, been found to be cases of extra-uterine pregnancy where a communication had been formed between the cavity of the gestation sac and that of the uterus, thus allowing portions of the fœtus to be felt during life through the os uteri. Nevertheless, it seems probable that very rarely genuine cases of "missed labour" do occur in women. Lusk cites a case which he regards as conclusive. The probable date of confinement was Oct. 28th, by the middle of November it was known the child was dead, and "there was no further expulsive action." On Dec. 30th the child was removed from the uterine cavity by Cæsarean section. The analogy between labour and abortion would lead us to a similar conclusion. Cases of "missed abortion" are not at all rare—i.e., cases where, after the death of the ovum at, for instance, the third month, it is retained in utero for weeks or months without the uterus seeming to make any effort to expel its contents. Such retention rarely lasts beyond what would have been the full term had the pregnancy been a normal one. Retention of the ovum for an indefinite period, to be measured by years, is not met with. Similarly we shall probably be right in accepting the possibility of the occurrence in women of "missed labour" when the period during which the fœtus is retained beyond full term is a relatively short one, as in Lusk's case, just cited. Where the retention of a dead full-term fœtus extends over a period of years there would be a very strong presumption that the case was really one of extra-uterine pregnancy.

POISONING BY ANTIFEBRIN.

DURING the last influenza epidemic in Sweden a great many cases of poisoning by antifebrin were observed, as people, immediately they were attacked or believed themselves to be attacked, applied to chemists for the purchase of the drug and took it *ad libitum*. All these cases, however, even when somewhat severe symptoms followed any considerable abuse of the remedy, ended in recovery. Dr. W. Warfvinge of Stockholm has published two such cases in *Hygeia*. The first was that of a man aged thirty-five years, who took two drachms of antifebrin one morning. In five minutes he felt fatigued and experienced a sense of weight in his head, and soon afterwards black and red clouds appeared before his eyes. Then lassitude in the extremities came on and he went to bed and slept for an hour and a quarter, when he was easily aroused by a call. All this time he understood everything, though not very clearly; but when he attempted to rise he felt giddy, staggered for a few steps and then fell down unconscious. When brought to bed again he swore and fought like one drunk, but soon sank into a comatose condition, with closed eyes, well-marked cyanosis, especially of his lips, relaxed muscles, cold hands and feet, decreased temperature, moderate diaphoresis and a lowering of respiration and pulse. These latter improved after hypodermic injections of camphor and ether, but the comatose state continued for sixteen hours. The following day no symptoms remained but frontal headache and cyanosis. The temperature varied from 97·7° to 101·12°. The urine was clear, deep-coloured, and contained much indican, but no blood, albumen or sugar. Some cyanosis could still be observed on the third day, when the urine was violet from traces of indican. The second case, which, like the first, had been treated in the Sabbatsberg hospital, was that of a girl of fifteen, who had taken nearly half an ounce of antifebrin with only just enough water to enable her to swallow it. In a quarter of an hour her whole body became hot and perspiring. Immediately afterwards she complained of vertigo and impairment of sight, and on attempting to rise from her chair she fell to the ground fainting, and remained in an unconscious state for seven hours and a half. After admission to the hospital vomiting came on. Coma was not so deep as in the other case, and she answered when spoken to loudly. Cyanosis was well marked, but disappeared the following day. The pupils were slightly contracted. The temperature varied from 95·8° to normal. The much speedier complete recovery in this case is probably explained by the washing out of the stomach, which was done within an hour after the antifebrin had been swallowed. Some cases recorded by other authors are referred to by Dr. Warfvinge. A patient of Dr. Z. W. Piehl had taken two scruples of antifebrin on two consecutive days as a remedy against the "Russian influenza," and the second dose was almost immediately followed by restlessness, dyspnœa, vertigo, vomiting, lassitude, pallor of face with cyanosis of lips and nails, a small pulse of 120, and extremely cold hands, feet and nose. Consciousness was, however, not lost in this case, and stimulants soon led to recovery. Dr. Albert Pallin observed in two workmen, each of whom had taken two teaspoonfuls of antifebrin in a day, cold sweats, cyanosis, fright, depression and incipient collapse.

CONFERENCE OF MEDICAL OFFICERS OF HEALTH.

THE above conference, held in connexion with the annual meeting of the Sanitary Institute, will take place at Portsmouth on Tuesday, the 13th inst. Several of the subjects proposed for discussion are of especial interest in view of the threatened invasion of cholera. Drs. Seaton, Groves, and Blackman will take part in a discussion on Isolation Hospitals. Dr. Swete will read a paper on the Purification of River Water, Mr. D'eath one on Village Sanitation and its Importance to the Public Health, and Dr. Thresh will deal with the subject of Interpretation of Results in Water Analysis. The Compulsory Notification of Phthisis will be discussed, Mr. A. E. Harris reading the introductory paper, and Dr. Newsholme will introduce the subject of Tuberculous Meat. After the meeting the members will visit the Sewage Tanks and Pumping Station at Eastney and the Borough Asylum at Melton. Altogether an interesting programme has been prepared, and it is hoped that the Conference will be largely attended.

A NEW CHINESE MEDICAL SCHOOL.

IT is a matter for sincere satisfaction within the ranks of the profession when, without prejudice to existing institutions, a new school of medicine arises in answer to the demand of a local need. We who are watching with some anxiety the slow and halting growth of a metropolitan teaching centre can well sympathise with this feeling. We can therefore cordially appreciate the genuine altruism which is indicated by the establishment of such a centre, similar in aim if less ambitious, in Hong Kong. This institution has been founded by resident British practitioners and is intended for the instruction of native Chinamen in scientific medicine. Alike in its history as an independent creation and in its purpose, it therefore illustrates the developmental characters of several deservedly reputed European schools. As regards the necessity for its formation there can be no question. Chinese ideas of medicine, as of many other matters, are of the most quaint description. Astrology, demonology and magic are among the classics of the art in that country, and its accredited methods and implements partake, as is well known, of the same unearthly and inefficient character. Into this cavern of mystery science enters like a beam of pure and [illegible] with it health. The professoriate of the new school is to be congratulated on having successfully localised some of this vital force in the active personality of two intelligent native graduates who, after a course of five years' training, have been accounted worthy to discharge the responsible duties of the duly instructed medical practitioners. After so careful an introduction to duty the professional development of these gentlemen will be noted with some interest. It is the ambition of the new college that its course of instruction should be recognised in this country. The object is no impossible one, and if we do not yet know of reasons sufficient to justify its present attainment, we can at all events recognise in the care bestowed upon these first *alumni* a prognostic indication of success in this particular at no very distant date.

PHARMACY AT THE ITALO-AMERICAN EXHIBITION IN GENOA.

EPOCH-MAKING in many ways, the discovery of America by Columbus, now celebrating its fifth centenary, has had an historical effect on therapeutics by the additions to pharmacy introduced from the New World. The great Italo-American "Exposition," organised in connexion with that celebration at Genoa, places this fact in the most interesting light. We speak not only of the quinine-bearing cinchonas and the many recent accessions made to pharmacology by Transatlantic medical science, but of what may be called the "non-officinal pharmacopœia of America." Under the section of "Erbe Medicamentose" (medical herbs), there is a most instructive assortment, from Honduras especially, of the remedies drawn from the vegetable kingdom for surgical as well as medical uses—herbs not unknown to European science, thanks to the zeal of the missionary fathers who brought civilisation into that region. Among these may be mentioned a liquid balsam employed, not without success, by the natives in the earlier stages of phthisis; other vegetable products of acknowledged value as emetics, as remedies in cholera, as emollient and strengthening lotions in the treatment of fractures. Pharmacology, ever on the watch for new weapons wherewith to enrich its armoury, will await with curiosity and interest the expert report now in preparation on these and other specimens of the "indigenous drugs" of the New World.

CHOLERA AND CREMATION.

IN *The Times* on Monday there appeared a letter from Sir Spencer Wells quoting the following paragraph from its issue of the 3rd inst.: "The German medical papers are beginning to agitate strongly in favour of compulsory cremation where cholera has been the cause of death." Sir Spencer Wells proceeds to observe that "the destruction of the bacilli found in the bodies of cholera patients has long been regarded by most bacteriologists as one of the most necessary measures to prevent the spread of the disease; and there can be no doubt that fire is the swiftest and most effective mode of destroying the bacilli." This is all very true, and, assuming that cremation were limited to the victims of epidemic diseases, whether cholera, scarlet fever, typhus fever, or diphtheria, the great objection to cremation—i.e., the medico-legal one—so frequently urged in these columns would be removed. But we think that exception must be taken to the following sentence: "If they (the bacilli) are buried in the earth they are almost certain to multiply and sooner or later to pollute the earth, the water and the air, and so act as storehouses of disease which ought to be stamped out." There are throughout the length and breadth of this country numerous burial grounds containing the bodies of thousands of victims of past cholera epidemics. Are there any grounds for believing that these are storehouses of disease and that the adjoining houses are unhealthy? The point is one which admits of positive proof or denial. Sir Spencer Wells, feeling very strongly on this point, wrote to Sir Walter Foster, the Parliamentary Secretary of the Local Government Board, to inquire how the usual regulations as to burial are modified when those who are buried have died of cholera, and whether the cremation of such bodies had been considered by the Board. In reply, he was informed that the Board had not considered the question, but he expresses a hope that the attention given to the matter in Germany will have its effect here, and that it will receive full and favourable consideration from the Local Government Board.

SMALL-POX IN AUSTRALIA.

WE learn from the *Sydney Mail* of June 25th that consternation amounting to panic has been caused in Melbourne and Sydney by the landing of passengers at these places from the ss. *Oroya*, of the Orient Line, who afterwards developed small-pox. The ship touched at Albany and Adelaide, was granted pratique at both, and then went on to Melbourne, where a passenger was landed in an advanced stage of the disease. On proceeding to Sydney other suspicious cases were landed. Every effort has been made by the authorities to trace the passengers who landed at the respective ports and to secure their revaccination. But in a continent like Australia, where compulsory vaccination is unknown (and, it is said, would be resisted), the prospect of a widespread and serious epidemic is not at all improbable.

THE FUNCTIONS OF VISITING AND RESIDENT STAFFS: THE BRISBANE HOSPITAL.

THERE has been some friction between the visiting and the resident staffs of the Brisbane Hospital. It appears that in 1883 a change was made in the by-laws which took the chief responsibility for the treatment of patients out of the hands of the visiting staff and placed it in the hands of the resident medical superintendent. At a meeting convened for the purpose of considering the action of this rule and its bearing on the respective duties of the visiting and the resident—the honorary and the paid—officers, Dr. Little, one of the honorary staff, complained that he was often left uninformed of important facts in the condition of patients after serious operations, that in his rounds of the hospital he was not always accompanied by one of the resident staff, and he moved that the committee should return to the by-law of 1883. Various views were expressed. Dr. Little was supported by one of his honorary colleagues. On the other side it was hinted that the visiting staff were not always regular in their attendance. In the result it was resolved that the committee of the hospital enjoyed the confidence of the subscribers and that no further action was necessary. The question is one which seems to us to require more definite settlement, otherwise the patient may fall between two stools. Unquestionably the public consider the visiting officer responsible for the treatment of patients, and that the resident officer acts, except in emergencies, under his supervision.

A BRITISH HOSPITAL FOR HYDROPHOBIA.

IT is indeed remarkable, we might even say disgraceful, that after the Pasteur treatment of hydrophobia has for years been in successful operation, and in face of the still recent prevalence of canine rabies in this country, we do not possess among ourselves the means of treating this dreaded malady promptly and effectually by preventive inoculation. There are at least three possible explanations which account for this evident omission. One is to be found in the fact that rabies, though not a rare, is not a common disease, nor is it at any time generally prevalent. Then, again, its period of incubation is relatively long. Consequently there has been an absence of any general panic during its visitations, and a large proportion of its victims have been able to avail themselves of the treatment afforded at the Institute in Paris. Probably, too, the attraction of a great name has not been without its influence in drawing them thither. Yet another cause must also be noted in accounting for our national deficiency in this particular. This is the feeling against vivisection which is still maintained in many quarters. Surely no greater anomaly wears the aspect of true sentiment than this unreasoning antipathy which, in order to spare the sufferings of a few rodents, would permit a human being to live and die in agony within reach of the only remedy proved capable, and amply capable, of relieving him. By some singular twist of logic it has been suggested that members of our own profession are in some way to be blamed for the non-establishment of a British institution for the treatment of rabies. We will not stop to discuss this absurd accusation. We are well assured that when the public mind is opened to the arguments of reason on this subject the voice of medical opinion will greet it with no uncertain sound. There can be no question that a British institute like that in Paris would prove most useful in emergency. It need not be large or costly, and, what is important, it would prevent injurious delay in treatment.

POST-GRADUATE CLASS AND LECTURES.

AT Charing-cross Hospital special series of clinical lectures and practical demonstrations, exclusively arranged for the convenience of practitioners and post-graduate students, are given at the hospital by members of the staff throughout the year. The lectures for the year are arranged in three courses, each course consisting of ten meetings and lasting ten weeks. Two of these courses are held during the winter and one during the summer. The class meets on each Thursday afternoon at 4 P.M. in the Board-room of the hospital and proceeds thence to the ward or other department in which the demonstration may be held. The fee at present charged for each course of ten lectures is one guinea. The first of the two winter courses of the ensuing academical year will commence on Oct. 13th next and will be conducted by the following members of the medical and surgical staff: Drs. Green, Bruce, Willcocks, Murray, Mott, Routh, Arkle and Messrs. Bloxam, Boyd, Waterhouse. Practitioners wishing to join the class can receive any further information as to the dates and subjects by communicating with the honorary secretary (Dr. Willcocks) or the honorary treasurer (Mr. Boyd) at the hospital.

THE SECOND INTERNATIONAL CONGRESS OF PHYSIOLOGISTS.

THE Second Triennial International Congress of Physiologists has this year held its sittings at Liège, with Professor Holmgren (Upsala) as President, in the Physiological Institute of the University. The Congress terminated on Thursday, Sept. 1st, after a banquet at which the Burgomaster of the city was present. More than 100 European physiologists attended the Congress; of these twenty-four represented Great Britain and Ireland, the number of British members being larger than at the Congress at Basle four years ago. Professor Michael Foster and Professor Burdon Sanderson were present. The following British members made communications, illustrated for the most part by experimental demonstrations:—On the first day: Professor Halliburton (London) on Nucleo-albumins; Dr. Starling (London) on the Fate of Peptone in Blood and Lymph; Professor Sherrington (London) on the Action of Antagonistic Muscles under Reflex and Cortical Excitation (demonstration) On the second day: Professor Schäfer (London) on some further Experiments on the Frontal Lobes; Dr. Noel Paton (Edinburgh) on Crystalline Globulin from Urine (demonstration); Professor Sherrington on Varieties of Leucocytes (with demonstration); Professor Schäfer on Structure of Striated Muscle (with demonstration); Professor Sherringtion on Cortical Centres for Movements of the Anus and Vagina (demonstration). On the third day: Professor Gotch (Liverpool) on Temperature and Excitability (with demonstration); Dr. Bayliss (London) on the Depressor Nerve; Professor Burdon Sanderson and Mr. Burch (Oxford) on the Capillary Electrometer and Observations on Muscular Contraction; Dr. Waller (London), Myothermal Observations upon Man (with demonstration). It was agreed to hold the next Congress in 1895 at Berne, in the Physiological Institute of the University, under Professor Hugo Kronecker. The general secretaries chosen for the next Congress are—for the French language, Professor Arloing; for the German language, Professor Exner; for the English language, Professor Sherrington.

FEVER IN LONDON.

IT is somewhat disturbing to learn that the scarlet fever prevalence in London shows no sign of abatement, and that the admissions have begun to exceed the discharges from the hospitals. The result of this is that the hospitals are full, and already we hear of cases being treated at their own homes. *In the meantime the preparation of the new hospital* at Tottenham is being pressed forward. We trust that the Asylums Board may be enabled to open this as quickly as possible in order to prevent the home treatment of scarlet fever.

SICKNESS AND MORTALITY OF ROSS AND CROMARTY.

DR. BRUCE, in his report for 1891, endeavours to give an idea of the diseases of this district. Taking the sickness from the records of his own private practice for the three years 1870, 1871 and 1872, and again for the three years 1883, 1884 and 1885, he had the following number of cases: Consumption, 30; whooping-cough, 30; epidemic pneumonia, 30; typhoid fever, 23; diphtheria, 14; and rheumatic fever, 6. In the first three years he had three cases of cancer, in the latter three years ten cases. In the earlier period no scarlet fever, in the latter twelve cases. Owing to the large proportion of uncertified cases the death returns are very incomplete, as we elsewhere remark, but we may give the chief factors in the order of fatality, if only to enhance the reflections we make in another column. Consumption causes a mortality of 1·68 per 1000 living; the deaths from diphtheria or croup, a "terrible record," are 131, or 0·543 per 1000; measles causes 73 deaths, equal to 0·300 per 1000 living; cancer 67, equal to 0·284 per 1000; diarrhœa 61, equal to a rate of 0·258; typhoid fever 19, equal to 0·080 per 1000; scarlet fever 14, equal to 0·059; puerperal fever 13, equal to 0·055; tetanus 11, equal to 0·047. We assume that these "tetanic" cases are mostly infantile, of the nature of trismus neonatorum, and if so they are not the least significant indication of the insanitary condition of dwellings and of the preventable excess of the mortality in these parts.

INTERNATIONAL DERMATOLOGICAL CONGRESS.

THE foreign and Austrian members of this Congress met on the 4th inst. at a social gathering at the Kaiserhof, when it appeared that in spite of the outbreak of the cholera epidemic the attendance of members of the Congress from foreign countries will be a good one, though the arrival of many French, English, American and German members was delayed by the quarantine measures of the continental states. The Congress was opened on Wednesday at the University Hall by Professor Kaposi, who addressed the meeting in the German, French and English languages, in presence of the official delegates of the Austrian Ministers and the City of Vienna. Professor Hardy of Paris, having been elected President, gave an address which he styled "[illegible] Actuel de la Dermatologie." He [illegible] the development of [illegible] dermatology from the time of the school of the St. Louis Hospital, where Mayer, Cazenove, Gibert and Devergie laid the first foundation of scientific dermatology. He then pointed out the great merit due to Erasmus Wilson and Hebra, who inaugurated the anatomical study of skin diseases and he explained finally the importance of bacteriology and of modern neurology in the development of dermatology. The first subject of discussion was leprosy, but as Dr. Petersen of St. Petersburg and Dr. Arning of Hamburg were absent on account of the outbreak of the cholera in their respective countries, the thesis prepared by Dr. Arning was read by the general secretary.

THE GENERAL MEDICAL COUNCIL.

WE have been informed that the name of ex-Professor John Struthers has been mentioned in Scotland as a fitting successor to the late Sir George Macleod in the General Medical Council. Dr. Struthers resigned his seat for the University of Aberdeen, much to the regret of most of his fellow-councillors, who appreciated the good work he had done on the Education Committee; and although he had *not, and as we are informed has not, any intention of becoming* a candidate, yet we understand that he would accept the Crown nomination if offered to him.

TYPHOID FEVER AND ICE CREAM.

DR. GEORGE TURNER is said to have informed the London County Council that he has traced an outbreak of enteric fever to the distribution of infected ice cream by Italian street vendors living at Deptford. The Council has properly urged on the local sanitary authorities attention to this possible source of danger.

ERGOTISM AND EYE AFFECTIONS.

DR. KORTNEFF relates in the Russian *Ophthalmic Review* some results of an epidemic of ergotism which recently raged in the Viatka Government, affecting 2000 persons. This was due to diseased rye having been employed in the making of bread. About two months after the commencement of the epidemic a good many patients came to the dispensary, complaining of trouble with their eyes. Some of them had temporary attacks in which vision was diminished to $\frac{1}{10}$, or even less, the fundi being very pale; and simultaneously with the eye trouble there was trembling of the limbs. Others complained of persistent impairment of vision, and these were found to have cataract which could not be distinguished from ordinary senile cataract. Maturation took place in from three to twelve months and was especially rapid in the case of children, some of whom were only six years of age.

THE EXTENT TO WHICH THE TOXICITY OF PHOSPHORUS IS AFFECTED BY TURPENTINE.

THE utility of turpentine in cases of phosphorus poisoning has been submitted to a very thorough investigation by Dr. Bush of Dorpat, who employed cats, dogs, a rabbit and a cock for his experiments. The phosphorus was administered in amounts larger than the minimum lethal doses, either hypodermically or in the form of emulsion by the mouth, and an hour or an hour and a half subsequently an emulsion of turpentine was given. The results showed that turpentine has the power of hindering to a certain extent the toxic action of the phosphorus. In addition to the use of turpentine in cases of acute phosphorus poisoning Dr. Bush advises that emetics should be given and that the stomach should be washed out. He estimates that doses exceeding the lethal dose by 0·001 grm. per kilogramme of body weight may be rendered non-fatal by means of turpentine. The explanation of its action is that it forms a compound [illegible] terebinthene-phosphoric acid described by Köhler and by himself, this body being less toxic than the phosphorus contained in it.

FOREIGN UNIVERSITY INTELLIGENCE.

Buda-Pesth.—Dr. E. Reczey has been promoted to an ordinary professorship of Surgery.

Cracow.—Dr. K. von Kostanecki has been appointed to the chair of Comparative Anatomy.

Gratz.—Dr. Carl Freiherr von Rokitansky has been appointed to the chair of Midwifery and Gynæcology.—Dr. Ernest Borner, who has for a considerable period discharged the duties of the professorship, has received an acknowledgment of his services in the form of a knighthood of the Order of Francis Joseph.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Professor Ludwig Bandl, the well-known Vienna gynæcologist, at the age of forty-nine.—Dr. Otto von Steinau-Steinrück, formerly a well-known and much-respected Berlin practitioner, at the age of seventy-six.—Dr. Alexander Obermüller, a distinguished Russian surgeon, who was associated with Professor Pirogoff in Sebastopol during the Crimean War, and who did important service in organising the medical department of the Russian army during the Russo-Turkish War.—Dr. Porai-Koshitz, *privat-docent* in Syphilography in the University of Kharkoff.

ITALY, at the commencement of the tourist season, wisely sends to the frontier of the Alta Italia the Commendatore Pagliani, Director-General of State Hygiene, commissioned to reorganise the sanitary surveillance, now rendered doubly necessary by the influx of strangers, particularly from the North Sea ports. The use and incidence of disinfectants are among the provisions of which he is to take special cognisance, so as to observe a just means between vexatious restrictions on the one hand and perfunctory operations on the other.

THE death, on the 5th inst., of John Edward Morgan, M.D. Oxon, F.R.C.P. Lond., is announced. The deceased physician was brother of Sir G. Osborne Morgan, Judge Advocate-General in Mr. Gladstone's late Administration. Dr. Morgan was a voluminous author, whose works for the most part are destined to survive.

WE have to announce with regret the death on the 2nd inst. of Mr. Walter Pye, F.R.C.S., Eng., Lecturer on the Practice of Surgery at St. Mary's Hospital, and late Professor of Pathology and Surgery at the Royal College of Surgeons. Mr. Pye held several hospital appointments, and was the author of many valuable works on surgery.

AN Italian correspondent writes: "By Royal mandate Dr. Guido Baccelli has been charged to represent His Majesty the King of Italy at the inauguration of the International Medical Congress which opens on Sept. 24th, 1893, in Rome."

THE introductory address of the winter session in the Faculty of Medicine in Owens College, Manchester, will be given on Monday, Oct. 3rd, in the Chemistry Lecture Theatre of the College, by Dr. W. H. Broadbent, F.R.C.P.

THE inhabitants of Monkwearmouth are up in arms against the proposition to erect a wooden building in Sunderland, to be used as a cholera hospital in case of necessity. The contention is that the hospital should be a floating one.

CHOLERA.

PROGRESS OF THE CHOLERA.

IT is satisfactory to learn that cholera shows symptoms of distinct decline in what may be regarded as its European home—namely, Russia—and at Hamburg, from which point it menaces both the Continent and the British Isles. But there is still room for discouragement in the fact that the disease has appeared at Riga and in the suburbs of Hamburg. It is gratifying to know, on Professor Virchow's high authority, that strenuous means are being taken in Russia to combat the malady, and that the hospitals provided are excellent in every way. Satisfaction will be felt, too, in considering that cholera has acquired no foothold in Berlin or the interior of the German Empire, and that there has been no southward march of the disease to the Austrian Empire or to the Black Sea or Turkish ports. The enemy has, indeed, followed a western route on this occasion as in previous epidemics. So far Hamburg has been the only threatening point as regards this country, although it appeared at one time as if Havre and Antwerp would constitute real dangers to us. These latter fears have now apparently proved groundless. But there is cause for uneasiness in the recent news to hand that cholera is sensibly present, though not as yet in epidemic form, at Rotterdam, which, like Hamburg, is one of the classic places from which the disease has been imported into this country.

It is gratifying to see not only that public opinion has been aroused with regard to the danger which threatens us, but that the local authorities of the country, particularly those of port and riparian districts, are taking every precaution to keep out the disease and to deal with it if it unfortunately enters our land. This is being energetically done with the active advice and assistance of the Local Government Board medical staff. So far, the results as to prevention have been satisfactory. Though there have been importations from Hamburg into the Thames and the Tyne, and at Grimsby, there has been no spread amongst the land population contiguous to these respective ports. Indeed, the arrangements for dealing with the pestilence that threatened London as well as the north and north-east of the country have been most admirably planned and carried out. Londoners in particular owe a deep debt of gratitude to the port authority and to the efforts of Dr. Collingridge, their health officer. No doubt this country is in a better condition now to resist cholera than it was in the great epidemics of 1849 and 1854, or even during the more localised outbreak of 1866; and were the disease to burst through the first line of defence—viz., the ports—it would not reach the terrible proportions of former days. But it will be universally confessed that we still have many weak points and "plague spots" amongst us in which cholera would thrive abundantly. So that the second line of defence—namely, improvement in sanitary matters—should be got ready without loss of time. It is to be sincerely hoped that the third line of defence—viz., hospital provision and isolation—will not be necessary. Nevertheless, it is well to know that in London the Asylums Board and local bodies are maturing a system of ambulance transit and hospital accommodation, whilst sanitary authorities in the provinces are doing their best in the same direction. At present all efforts are concentrated on the points of entrance of cholera. Our English system of medical inspection, as opposed to quarantine, so amply vindicated before, is now again in the furnace of experience. A striking contrast is to be observed at New York, where, in consequence of outbreaks of cholera on the *Rugia* from Havre and the *Normannia* from Hamburg, a general European quarantine is in force. This contrast will doubtless afford a means of comparison of the efficiency of the two systems. There is no fear that our own will not stand the test. In the meantime, as a correspondent of *The Times* of Sept. 5th wisely says, there should be no undue alarm amongst the public at the present crisis; for, in the first place, no epidemic exists at all, and even if an epidemic such as we have previously had were to take place, it would, on an average computation, be thirty-five times less severe than an ordinary outbreak in the native home of Asiatic cholera.

CHOLERA: WHAT WE KNOW ABOUT IT AND WHAT WE STILL REQUIRE TO KNOW.

We said last week that the study of cholera as a branch of epidemiology is one thing and the study of the causes of its progress in relation to communities and its propagation among the series of units of which such communities are composed is another, and that different conclusions would probably be reached according to the standpoint from which the observations are made. Considering what may without exaggeration be characterised as the flood of cholera literature which has recently appeared in the shape of leading articles, correspondence and paragraphs descriptive of the course and progress of the epidemic and its real or alleged causes, or proffering advice and suggestions in regard to the prevention or mitigation of that disease, it is somewhat singular that some points connected with its recent history have not been more forcibly dwelt upon. To begin with, there is not one—there are two epidemics. One of the most curious and interesting features connected with the medical history of Europe at the present time consists in the fact that we have, in reality, to deal with two epidemics of cholera which, so far as our present knowledge stands, have been or are independent of one another. They have started from different centres and pursued different courses, and that which was nearest to us in Europe apparently anteceded the appearance of the other and larger one on Russian territory. The starting-point of the latter has been traced back to the great Hurdwar fair in India. It will be remembered that the cholera broke out there on March 22nd, and that the fair in consequence was closed on the 25th of that month and the vast assembly of pilgrims dispersed. Thence the disease may be traced by way of Afghanistan and Herat, at which places it prevailed in April, into Russian territory and along the Caspian to Baku and Tiflis, with a cross branch from its left flank towards Batum and the Black Sea, and onwards by the Volga until it reached St. Petersburg, and, going south-westward, ultimately Hamburg. On the other hand, the other epidemic commenced as a limited but very sudden and fatal outbreak in an overcrowded prison at Nanterre, close to the Seine, early in April last, and the disease having prevailed in the suburbs of Paris, especially in the neighbourhood included, as it were, in the loop of that river, subsequently reached Rouen and Havre. It likewise prevailed at Antwerp, which may possibly be geographically regarded as the point of confluence or convergence of the two epidemics. The exact nature of this epidemic disease near Paris at the date of its inception in the outbreak at Nanterre in April was a matter of contention at the time. It was strenuously denied that it was Asiatic cholera at all, but rather some pseudonymous congener which closely mimicked that disease, but was dependent on strictly local causes—viz., the use of the Seine water—and clearly had no relation to the cholera epidemic invading Russia at her eastern frontier. The next point to be remarked is that attention has been concentrated on the Russian epidemic almost to the exclusion of the other, and that by vessels from Hamburg and by Jewish and other immigrants from Russia the disease has been introduced into this country in [illegible] directions, but in no instance has it happily taken root in our soil; or rather it would be safer to say that up to the present time it has not manifested its presence among us in any epidemic or large circumscribed outbreak of any kind. It may be pertinent and interesting to advert here, in connexion with the date of the earliest cholera manifestation in the vicinity of Paris, to a somewhat significant parallel fact connected with the way in which cholera comports itself in India. When cholera overflows, as it were, the margins of its endemic area in that country, either sporadic cases of so-called [illegible] cholera or sudden and very circumscribed outbreaks of that disease are frequently the earliest premonitory manifestations of an increased activity on a far [illegible] scale later on. Be this as it may, the disease, though introduced, as we have said, at so many points in this country, has not taken root and developed, and that [illegible] been quite reasonably attributed to our improved [illegible] and good water-supply having afforded it [illegible], to the vigilant care that has been exercised [illegible] and to the [illegible] of [illegible] cholera. Many thoughtful observers had ventured to prophesy from the first, however, that it was not this but next year that should be regarded as our probable time of danger and trial. Cholera in its epidemic and invading form extends through a succession of years, the period from its first invasion to its final decay and death representing, as it were, its normal life history. Any differences in the parallels between different epidemics probably depend upon meteorological conditions of the area invaded. An epidemic of cholera has a life of three or from three to four years from its start to finish, the interval between one epidemic and the next being uncertain.

The practical lesson to be learnt is that we should make every use of the present interval for improving and perfecting our sanitary condition, and for devising the means of limiting the spread of the disease and of providing for such cases as may unhappily occur. It may sound like a platitude to repeat the elementary truth that it is too late to undertake the removal of accumulations of dirt and the cleansing of sewers when cholera is actually present. The attempt at such a time would only make matters worse, and the unpreparedness of Hamburg to meet the requirements of an epidemic has been an object lesson for us in this and other respects. It is not only useless, but positively reprehensible to dogmatise about a disease like cholera as if we knew all the laws of its epidemicity; but we trust that a really scientific and systematic attempt will be made to chronicle and record a trustworthy history of the origin, course and progress of the present pandemic, and that a similar attempt will be made on the part of every local observer to trace out and follow the progressive steps of the disease in a more limited sphere and amid a sparsely distributed population. The one inquiry is obviously the necessary supplement and complement of the other. The subject should certainly be lifted out of the rut of barren hypotheses and empirical experience and placed upon the firmer basis of ascertained fact, which is the only real road to scientific progress. That persons coming from an affected locality may carry the disease with them wherever they go and die of it are indisputable facts. But more definite information is still required to carry conviction to the minds of some persons as to the influence of such individuals in lighting up or causing an outbreak or epidemic of cholera in the population into which, or through which, they pass. Do they give rise to cholera in every direction in which they may happen to go, or only in certain definite directions? And the cause of the exemption of numerous places within an affected area during the progress of an epidemic through it might also prove a fruitful source of inquiry. We already know enough, however, to be sure that cholera obeys certain laws, and the knowledge is capable of wide and practical application. Whether we regard its natural habitats as India and Asia, of which it is an indigenous product, while here it is of the nature of an exotic, whether its cause be the comma bacillus or some other vitalised agent, whether it be disseminated by human agency exclusively or not, and whether it be earth-borne or water-borne, there can nevertheless be no doubt that dirt is its soil and heat and moisture the conditions for its growth and development—in brief, that the seeds of the disease, like the seeds of a cucumber, need a muck heap for their growth, and with reasonable care and due attention to sanitation we should be able to guard against any such contingency. It may sound like a paradox to say that the best way to isolate cholera infected persons is to disperse them, but the apparent paradox has been found to prove a reality in practice. In India the method pursued is not to establish land quarantine cordons, but the reverse. On the appearance of cholera the troops are dispersed and encamped on carefully selected sites away from the locality where the disease prevails; and, if necessary, the camps are shifted again and again until the disease disappears. This practice has been followed by very marked success, and the camping grounds have not been found by experience to act as foci for the further dissemination of the disease. Why should not some attempt be made in this country to carry out some similar method of dealing with cholera should it unhappily become our fate to be subsequently added to the list of countries affected by the present epidemic? Quarantine and sanitary cordons by which all persons, whether affected or simply suspects coming from any place or country officially regarded as infected, were [illegible] together in quarantine quarters without [illegible] or comforts of any kind, are things of the past. The system, which [illegible] created panic, stopped all commerce and proper food-supply, and gave rise to evils worse than the risk of contracting the disease, was in reality admirably designed in practice to provide so many nurseries and depôts for the development and subsequent distribution of the disease to other places; whereas the present system of the separation and detention of the sick, and the temporary detention and subsequent observation of the infected or suspected, is to our minds a logical and reasonable method of procedure.

CHOLERA IN BELGIUM.—JUMET.

In continuing his letter on the sanitation of Jumet, our Special Correspondent writes:—Considering the severe outbreak of cholera which occurred at Argenteuil, at St. Denis, at Aubervilliers, and, in fact, throughout the whole of the north and western suburbs of Paris, persons flying from these districts should have been carefully watched. The French Government might in some way, either officially or in some indirect and unofficial manner, have warned the Belgian Government that a number of Belgian subjects were going back to their respective homes from a cholera district. Severe measures are now taken to secure the registration of all foreigners residing in France. It would be making good use of the information thus secured to inform foreign governments when a considerable number of their subjects were returning homewards in consequence of an epidemic. My visit to the Town Hall at Jumet did not tend to inspire me with much confidence in the energy and capacity of the authorities. I there ascertained that nothing had been done till after the death of Van Esbercq. At the Town Hall I was assured that the middens were well built, well cemented and water-tight, not that any public functionary watched over this work and verified its soundness, but simply because the masons and bricklayers in the neighbourhood were in the habit of doing their work well. While far from wishing to place any doubt upon the excellence of this workmanship, I cannot but feel that this is an insufficient guarantee. Then we must reckon with the movements of the soil, which are very considerable in those portions of the commune of Jumet where mining operations are carried out. This, of course, must dislocate the masonry, however soundly built, and cause the middens to leak. As wells and middens are side by side, the danger resulting is obvious. At Jumet, in at least three-fourths of the houses, well water or rain water is drunk. Considering the hilly nature of the country, the landslips that have occurred, the fact that it often happens that the basement of one cottage is on a level with the roof of another cottage which is but a few yards distant, and that these cottages have wells and middens overhanging and overlapping each other, the danger of drinking well water becomes more and more obvious. The few cases of cholera that have occurred at Jumet, Roux and the neighbourhood are alarming, only in so far as they may be looked upon as warnings of what may ensue.

SPREAD OF THE EPIDEMIC AT ANTWERP.

There is no disguising the fact that the position of affairs at Antwerp is very serious. At first the cases of cholera were distinctly connected with the two ships, the *St. Paul* from Havre and the *Nerissen* from Hamburg. As already stated, the *St. Paul* arrived in the Kettendyck Dock on Aug. 15th; one of the crew fell ill on the 16th, two more on the 17th, and a fourth on the 20th. Three out of the four died, and there were only five able-bodied seamen on board the *St. Paul*. The crew consisted in all of eighteen persons. Then there was a sailor from the *St. Marc*, anchored close to the *St. Paul*, who contracted the cholera. The master of the barge *Jeune Adèle* and his wife and children were the next victims. I have now ascertained that they had washed some of the clothes of the sailors of the *St. Paul*. After that some dock labourers, who had helped to unload the *St. Paul* and the *St Marc*, fell ill. At the same time the *Nerissen* arrived from Hamburg, and one of the crew, Frederic Maas, died of cholera at the Antwerp Hospital. A woman who kept a restaurant frequented by these sailors was ill in her turn; and in all there were ten cases clearly traced either to the *Nerissen* or the *St. Paul*. The ten cases ended fatally. While the epidemic was limited to the contaminated ships and those who had direct connexion with the ships, there was reason to hope that the evil might be nipped in the bud. Now, however, the cholera has spread not merely among persons immediately connected with the shipping but all over the town. As yet there have been only twenty-four deaths, reckoning from Aug. 16th to Sept. 4th, and some eighty-five known cases. It is probable that several other cases have not been reported, or have been diagnosed as cholerine instead of cholera; but the fact that the more recent cases appear disconnected one from the other and are scattered in various parts of the town seems to indicate that the infection has now become general. In the face of this threatening fact, the authorities decided yesterday to no longer issue clean bills of health for ships sailing from the port of Antwerp. The ships' papers will now bear the words, "On observent des cas isolés de choléra."

Not only is the town of Antwerp thus threatened, but the contamination has already spread to a considerable distance. At Bornheim there have been in the course of three days nine cases and seven deaths. Bornheim is situated on the river at a distance of eighteen miles from Antwerp. It has a population of 6000 inhabitants, but the particular district affected by the cholera has a population of 1200 persons. The disease had been brought to this place by barges from Antwerp. Dr. Desquin, member of the provincial medical committee, hastened to the spot. He found that nothing whatsoever had been done. The cottages inhabited by the people were very poor and dirty. One cottage was in such a condition that disinfection was impossible, and Dr. Desquin consequently advised the mayor to burn the place down. As another instance of the spread of the disease, I should mention that a beggar woman from Antwerp has taken the cholera to a village called Niel, and there have been several cases brought to Malines by bargemen from Antwerp. Here also it has been necessary to burn down some cottages; but I will speak of the Malines epidemic when I have had a better opportunity of obtaining authentic and detailed information. I will also reserve for a future occasion some account of the fresh cases brought to Brussels equally by barges from Antwerp; but there is worse than this. That bargemen should contract cholera at Antwerp and fall ill when they have already travelled some distance from the town is but natural. Nor need such cases cause any particular alarm—at least, if these bargemen are properly watched and isolated as soon as suspicious symptoms declare themselves. But if barges can be disinfected and their crews isolated a river or a canal cannot be so readily purified. On Saturday (Sept. 3rd) news was received by the Provincial Medical Committee that, within the previous two or three days, there had been twelve cases of cholera and ten deaths at Boom. This town has a population of 14,000 inhabitants. It is situated on the Roupel, a large tributary of the Scheldt, and is at a distance of nine miles from Antwerp. No connexion could be established between these cases and the epidemic at Antwerp. There had been no barges coming from Antwerp to Boom with illness on board. The only suggestion as yet forthcoming is that the inhabitants of Boom take their drinking water from the Roupel, and the tide of the Scheldt affects this river. If this be the true explanation, then the water of the Scheldt at Antwerp must be very strongly contaminated for the infection to travel up with the tide, but against the current, so far as Boom. When we consider how far-reaching is the tide of the Scheldt, and that Belgium is honeycombed with rivers and canals, the prospect opened out by the fact that the cholera has, perhaps, been brought to this town by water and not by human intercourse is anything but reassuring.

Some comfort may, however, be derived from the knowledge that the Medical Commission of the province of Antwerp is displaying laudable energy. Unlike the authorities at Jumet, the methods of disinfection enforced in the province of Antwerp are as complete as can be expected or desired. The straw mattresses on which most of the patients sleep are burnt. All the old and worthless clothes, bedding &c. are also burnt. Strings are fastened across the room on which are hung articles of more value. The place is closed up hermetically and fumigated with sulphur for twenty-four hours. After fumigation the walls, floors &c. are washed with a 1 per 1000 solution of sublimate. A cottage is hired by the local authority in which the inhabitants live while their homes are being disinfected, and objects destroyed by fire are replaced at the public cost. This proceeding affords an invigorating contrast when compared with the timid action of the authorities at Jumet. As a final illustration of the spread of the epidemic I have been officially informed that there have been five cases of cholera within twenty-four hours at Eckeren, six miles from Antwerp, on the road to Holland. Here there is no river or water connexion with Antwerp, and no explanation is as yet given as to how the cholera reached this town.

In my next letter I hope to be able to give an accurate account of the drainage and water-supply of Antwerp; but, in the meanwhile, I cannot defer relating what I saw and heard when I called on Dr. Terwagne. This practitioner, backed by the local paper, *l'Opinion*, has caused considerable commotion by denouncing the fatal delays in taking precautions against the cholera. Briefly, and to use his own words, his contention is: "That the cholera broke out at Havre at the commencement of August; that the Belgian consul said nothing about it; that on Aug. 15th the *St. Paul* arrived at Antwerp and cholera ensued. The sailors of the *St. Paul* die at the hospital; the press, the public and the consul remain silent. On Aug. 18th only is the Government informed, and this by letter instead of by telegraph. The Government does not mention the warning received from Havre before the 23rd. During that interval the cases of cholera multiply."

There are three sanitary authorities at Antwerp. The Sanitary Commission of the Scheldt has control over the river and the shipping, but, according to the law, it must take no measures till it receives orders from the Government. No such orders were sent by the Government, and that is why nothing was done when the cases occurred on board the *St. Paul*. When, however, the *Nerissen* also brought the cholera to Antwerp the Sanitary Commission of the Scheldt took the law into its own hands. Though the proceeding was absolutely illegal, still, without waiting for the Government orders, the Commission met and has ever since acted with energy and ability. There can be no doubt that the Government will approve the initiative it has taken and will overlook the illegality of the proceeding. The other sanitary authority is the Provincial Medical Commission, which has to watch over the health of the entire province; and the third authority is the Medical Commission of the town of Antwerp. This latter is purely a local commission, and one of its principal duties in the present emergency should be a house-to-house visitation. I acknowledge that this will be a giant task; but its accomplishment is urgently needed, not merely with regard to the cholera, but with regard to health generally.

To return to Dr. Terwagne, his first experience of cholera was most painful. He was called some three weeks ago to Dinant, the beautiful holiday resort on the Meuse. His father and his brother were in a dying condition; both had cholera and had reached an advanced stage; their skin was blue and cold. Fortunately, though unexpectedly, both recovered. It is important here to note that no mention had nor has yet been made of the existence of cholera at Dinant. Considering the great number of tourists of all nationalities who travel between Namur, Dinant and the forests and mountains of the Ardennes, we ought to be better informed as to what is occurring in those countries. Since his return to Antwerp Dr. Terwagne has had a great number of cases of cholerine. On Monday, Aug. 5th, he visited in all thirty patients and all were suffering from cholerine. On the previous Saturday he saw in their own homes fifty patients and nine had cholerine. He qualifies cholerine as violent diarrhœa and vomiting accompanied with cramps in the limbs and increase of temperature. It differs from the usual diarrhœa noticed in summer by its violence, by the cramps in the limbs and the frequency of fatal results. But the question arises, Where does cholerine end and where does cholera begin? When these cholerine patients show a decrease instead of an increase of temperature, a leaden, bluish hue and when there are rice-water evacuations, then it is considered to be a case of cholera. Such a case occurred among Dr. Terwagne's patients ten days ago. The victim was a baker living not far from the Rue Deurne, where the first cases of cholera within the town occurred. The doctor at once telegraphed, according to published instructions, to the Minister of Agriculture at Brussels. Though nine days had elapsed when last seen, [illegible] whatever had been done; neither police, disinfecting [illegible] any other public functionary had visited the [illegible]. Yet the case is the more urgent as the sufferer [illegible] by trade, and there may perhaps be some risk [illegible] contaminated. What, then, was the use of [illegible] to the Minister of Agriculture? Now, however, [illegible] 2nd, the Burgomaster of Antwerp issued a [illegible] from a duplicate [illegible] the Minister of [illegible] to believe that the [illegible].

[illegible] of Dr. Terwagne I visited the Rue [illegible] and many other streets which have more especially suffered from cholera. I will reserve my description of the sanitary condition of this quarter till I have gone into the matter more fully and consulted the town engineer. I have seen things I cannot believe to be true and for which there must be some explanation not apparent to the naked eye. In all directions, in wretched backyards adjoining dirty dwellings inhabited by very poor people, there were open middens side by side with shallow wells from which water is taken for drinking purposes. In one house the pump apparently went right through the midden to reach the well, which seemed to be actually underneath this receptacle of the household filth and the cholera or cholerine dejections. A death from scarlet fever had occurred here last week. In the Rue Deurne, where cholera has spread in several of the houses, I found in a court two midden closets within a few inches of a well and by the other side of the well a stable containing cows. The pails which carry the milk are washed with water from this well; and it is in the surrounding houses that the greatest number of cases of cholera have occurred. With such facilities for contaminating milk, it is not surprising that the cholera should break out in different parts of the town apparently disconnected one with the other.

CHOLERA IN FRANCE.

Our Paris correspondent writes:—In my last correspondence I informed your readers of the terms of the regulations now in force at all the frontier railway stations from Dunkerque to Delle. I am able to-day to send a specimen of the passport supplied to passengers who are, after examination, recognised to be free from choleraic symptoms. All reasonable people will allow that the formalities are not very onerous. The pity is that they were not put into force much earlier. Hotel and lodging-house keepers are bound by the terms of the same decree to immediately declare the presence in their establishments of any traveller who has arrived from Belgium or Germany. Medical men or heads of families are, moreover, required to report within twenty-four hours any suspicious case that may come under their notice. The importation of rags and bedding from Russia, Germany or Belgium is disallowed until further notice, and the same restrictions obtain in the case of fruits and vegetables grown in these countries. On Friday last a report of the insanitary condition of Paris and its environs was read to the Sanitary Council of the Seine by Dr. Dujardin-Beaumetz. That gentleman announced an evident increase in the prevalence of cholera. While the mortality from the disease in Paris from Aug. 4th to Aug. 17th was only 16, the figures for the period comprised between the 18th and 31st of the same month had reached 175, the increase being elevenfold. In the suburbs the corresponding figures were 33 and 75 respectively. Dr. Dujardin-Beaumetz comforts himself with the reflection that for a population of 3,000,000—i.e., the population of the Seine Department—the deaths from what he still denominates choleriform diarrhœa were only 16 (or 1 in 20,000) a day for the last fortnight of August. The officials assure the public that "the above statistics allow of the conclusion that in Paris and its environs we have still to deal with the same choleriform diarrhœa that has been prevalent for the past five months, and that not a single case of Asiatic cholera has yet been seen amongst the Parisian population." The most recent *Bulletin hebdomadaire* to hand tells us that there were in the Paris hospitals under treatment on Aug. 21st for *affections cholériformes* 41 patients; that the total number of admissions for the same malady for the period comprised between Aug. 21st and 27th was 254. In the same period 57 were discharged and 70 died, thus leaving under treatment on the evening of Aug. 27th, 168 cases. The mortality for the whole of Paris on Friday, Saturday and Sunday last, was 23 and 14 respectively. At Havre, the fresh cases on Saturday and Sunday last were 27 and 41. Dr. Proust states that while the mortality in Havre in three weeks has been [illegible], in Paris only [illegible] persons have succumbed to cholera in five months. Dr. Martin tells us that arrangements have been made so that as many as 100 disinfecting processes could be conducted in the public ovens now at work in Paris.

CHOLERA IN GERMANY.

Our Berlin correspondent [illegible] that the [illegible] number of the "Publications of the Imperial Office of Health," dated Aug. 31st, contains the following: "The first cholera cases in Hamburg occurred on Aug. 16th, and the patients were almost exclusively persons who were occupied at the harbour or went up and down on the Elbe. The contagion was, in all probability, brought by emigrants from Russia and communicated by the passing of the water with which their linen &c. had been washed, and of all their excreta, undisinfected into the arm of the Elbe near the barrack built for them, which was the more dangerous as the water-supply of the city is taken from the river at a point not far distant. The correctness of this explanation has been rendered almost certain by the observations made by Privy Medical Counsellor Professor Koch and Government Counsellor Dr. Roth on the spot at the instance of the Imperial Office of Health." The *Hamburger Fremdenblatt* declared on Wednesday evening that about 2000 persons have died of cholera since the 20th ult. who were not reported as having died of cholera and that consequently the official lists were worthless. Happily the Hamburg-Altona epidemic has not yet spread to other parts of Germany, though isolated cases have occurred in a good many places, including Kiel, Bremen, Lübeck, Hanover and Berlin.

Professsor Virchow has returned from Russia and took part in the deliberations of the Berlin Public Health Committee on Wednesday last. He condemned the unwillingness of the heads of hospitals to receive cholera patients, and declared that the fear of infection is quite unfounded. The idea that the cholera spread through the air was an error which was more and more disappearing from the minds of men; in the main it spread only through the evacuations; it was necessary, therefore, to exercise all possible caution with regard to them, which could be done most effectively in hospitals. The Charité had not hesitated to receive cholera patients. The same was done in St. Petersburg and Moscow, where cholera patients lay in rooms close to those where other patients were. A tendency in the same direction was observable in England, and the Germans would have to follow. New barracks were open to objections; it was difficult to erect them so as to meet all requirements, especially as regards connexion with the public sewers.

CHOLERA IN AUSTRIA.

Our Vienna correspondent states that up till the present no case of cholera has been reported in Austria, although great numbers of people are now returning from the watering places on the Baltic Sea. At all frontier stations passengers from Germany, France and Russia and their luggage are subjected to disinfection and to medical observation during the first five days of their residence in Austria. Disease and mortality rates have been extremely low in Vienna during the last few weeks. Even the intense heat of August did not cause more than fourteen cases of death by sunstroke. Sanitary inspections are proceeding vigorously. No less than 360 dead cats and dogs have been taken out of the Wien, a stream which runs through Vienna.

MEETING OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

An extraordinary meeting of the College was held on Saturday last, the 3rd inst., to consider a communication from the Secretary of the Local Government Board asking the advice of the College as to the means best adapted to the immediate medical treatment of patients suffering from cholera, choleraic diarrhœa, or diarrhœa, the same to be communicated by the Board to the local sanitary officers throughout England and Wales. A memorandum in reply to the communication was submitted to the meeting, and was, after consideration by Sir Andrew Clark (the President), Sir George Johnson, Sir Joseph Fayrer, Sir George Buchanan, Dr. Russell Reynolds and the acting Registrar, sent to the Secretary of the Local Government Board.

SYMPTOMS AND TREATMENT.

We have received from several correspondents hints and suggestions regarding the symptoms and conditions to be met with in cholera, and also as to the drugs most useful in the treatment of the disease. Thus Surgeon-Major P. J. Damania draws attention to the importance of the suppression of urine as a diagnostic factor of the disease, and he also alludes to the absence of pain in the intestine.

Mr. E. Hurry Fenwick writes drawing attention to the hæmorrhage and oxaluria which, in Dr. Prout's opinion, was a sequence of cholera: "Dr. Prout ('Stomach and Urinary Disease,' 1840, p. 23) records his experience thus: 'I saw about the time the cholera prevailed and a little afterwards more cases of oxalate of lime calculi and of formidable hæmorrhage from the kidneys than I have ever previously seen during the whole of the long period that urinary disease had occupied my attention.'"

Dr. George Herschell refers to the prophylactic treatment of cholera. He writes: "I venture to suggest that the most scientific treatment of the preliminary diarrhœa of cholera, which, after all, may be an effort of nature to get rid of the *materies morbi*, will be first of all a good purge of castor-oil or calomel, and then a course of dilute hydrochloric acid given sufficiently often to prevent the establishment in the stomach at any time of an alkaline or neutral reaction. This might be combined with advantage, if the diarrhœa were excessive, with a vegetable astringent or an antiseptic. A perfect intestinal antiseptic is still a desideratum, but judging from its action out of the body, pyoktannin (yellow) should prove the most destructive to the cholera germs if it turns out that it can safely be given in sufficient doses without unpleasant symptoms."

Mr. E. Tegart forwards us a communication which appeared during the last epidemic in a contemporary, signed by his father, Mr. Edward Tegart, Inspector-General of Army Hospitals, in which a case is quoted as having been cured by the administration of three drops of croton oil on a lump of sugar. The late Mr. Tegart continued: "Ever since the appearance of the Asiatic cholera in this country I have not ceased to urge the employment of croton oil to my professional brethren, and even to the Central Board of Health, but in vain, for I have never yet heard of its being resorted to. I was induced to recommend it from the decided success I witnessed of its utility in yellow fever and other diseases in the West Indies bearing a strong resemblance in many of the leading symptoms and appearances after death to those of the epidemic cholera. My reasoning therefore was from analogy; but the practical facts detailed in my personal case confirm the strong impression on my mind that the croton oil will prove an invaluable remedy in spasmodic cholera."

MILITARY PRECAUTIONS IN DUBLIN.

The military authorities have made the following precautionary arrangements:—"Bell-tents and hospital equipment sufficient for fifty patients to be stored in Pigeon House Fort ready for immediate use. On notice being received from the Medical Department of a case of cholera having occurred among the troops the hospital will be pitched, and every man that can possibly be spared will at once be withdrawn from the Pigeon House Fort, as well as the whole of the married families. All the available accommodation in the fort will be handed over to the medical officer in charge of the cholera hospital."

SANITARY REGULATIONS.

No more cases of cholera have broken out in Liverpool, though two vessels from Hamburg arrived in the Mersey on the 6th inst. The vessels were boarded by Drs. Taylor and Hope and the crews found to be perfectly free from the disease.

PREVENTIVE MEASURES IN ROUMANIA.

Dr. A. Irwin Bolton writes from Constanta stating that great preparations, in a hygienic point of view, are being made there and in all Roumanian towns, in anticipation of the arrival of cholera. In Roumania all water-closets and cesspools are regularly inspected, and the proprietors of hotels, private houses, &c., are obliged, under threat of legal proceedings, to have such places saturated twice a month with antiseptics. All private and unnecessary wells have been closed, and drinking water is only allowed to be drawn from those which are under the immediate care of the municipality. A strict quarantine system is adopted in the port. Every arrival is inspected minutely, and all passengers before landing are disinfected. The measures adopted there are certainly very creditable to the authorities. He continues with the following statement:—"My opinion is we shall escape it this year. The warm season will soon be drawing to a close, and then we shall have moderate daily temperature with cool nights, and under such circumstances cholera is not likely to progress. But I feel certain we shall have it next year, for it is unknown in the history of cholera to find it advance so far as it has at present without its extending its visit into the interior of Europe. Let us hope that by the well-directed and timely precautions adopted by the Roumanian authorities, both medical and otherwise the that misery and mortality caused by this dire pestilence may be mitigated."

PRECAUTIONS IN SEAPORT TOWNS.

Circulars containing elaborate instructions have been issued by the Medical Officer of the Burgh of West Hartlepool, by the River Town Port Sanitary Authorities, and by the Burgh of Folkestone. The Port Sanitary Authority of Dover has issued to every captain a copy of a document relating to the cross-Channel traffic.

LIFE ASSURANCE AND THE MEDICAL PROFESSION.

SINCE the appearance of our last special article containing notices of the Life Assurance Companies' Accounts we have received a considerable number of additional reports. For the most part these documents contain very little information beyond the assurance that the issuing company, be it which it may, continues to thrive and has secured a return of new business proportioned to the expectations of its directors founded upon the past history of the society. To this class must be referred the Commercial Union, which transacts the three branches of life, fire and marine insurance, and appears to succeed very respectably in every several department; the Eagle, which, confining its attention to life assurance, maintains a steady course of business upon well-established and well-approved lines; the Hand-in-Hand, a very old company, conducted on the mutual plan, which this year submits the report for the 195th year of its existence; the Liverpool and London and Globe Insurance Company, which, giving attention chiefly to the fire department, transacts an enormous business in that branch, which somewhat overshadows the smaller transactions of the life assurance department; the National Provident Institution, a society designed originally to meet the requirements of the middle-class policy-holder, which has succeeded in realising its founder's intentions in a remarkable degree; the North British and Mercantile, a company which has launched upon the dangerous experiment of accepting proposals for members of the Civil Service without requiring a medical examination, and is not very communicative as to the present financial result; the Provident Clerks' Mutual Life Assurance Association, which, as its name imports, aims at reaching the large class of mercantile clerks, and in a very considerable measure attains its object; the Standard, a large and well-established Scottish office, of which one might expect to read some interesting details concerning a very widely extended business; and the Scottish Amicable, another North British institution of large concern and established reputation, which is represented by a very meagre though somewhat prolix report. Among those which present points of interest in their reports mention must be made of the Metropolitan, an old mutual society, whose directors announce an intention to liberate their policies in future from all conditions "not found to be absolutely three or four years a power of growth unexampled in its own earlier record, to which the return now made public puts a fitting crown.

ANNUAL REPORT OF THE LOCAL GOVERNMENT BOARD FOR IRELAND.

FROM the twentieth annual report, which has just been issued, it appears that there has been a further decline in the average daily number of persons relieved in the workhouses, while there has also been a slight decrease in the average daily number of persons who received out-door relief. The average daily number in the workhouses was 40,742, and on out-door relief 62,229, or a total of 104,078, which was less than the average daily number in workhouses and on out-relief by 1053. During the year ended March 5th last the total number of deaths in the various workhouses was 10,937, showing an increase of 1130 deaths as compared with the number for the preceding year. Of these, fever caused 337, against 296; lung disease 2208, against 1843; phthisis 1171, against 1021; brain disease 363, against 359; and heart disease 593, as compared with 570. There were for the twelve months ended Sept. 29th last 47,625 persons admitted into the workhouses for sickness, being a decrease of 7835 as compared with the previous year, a decrease of 12,847 in the number admitted who were not sick, and a decrease of 918 in the number suffering from fever or other contagious disease. In the various dispensary districts the medical officers attended 394,880 new cases at the dispensaries and 161,362 persons at their own homes, or a total of 556,242; gave certificates for 1901 dangerous lunatics, and vaccinated or revaccinated 90,693 people. The vaccination returns show an increase of 415. There were 13 cases of small-pox treated by dispensary medical officers and 3 deaths in workhouses during the year. During the winter of 1891-92 a second well-marked outbreak of influenza became epidemic in Ireland. This latter visitation was not attended with symptoms quite so severe as those which occurred in the outbreak during 1889-90, and it has differed from the former epidemic in one important respect. The previous epidemic as a rule spared the aged, whereas the more recent outbreak has fallen with impartial severity upon persons of all ages. From reports received it appears that very large numbers of the population were affected with influenza during the past winter, and, in consequence of persons of advanced age having suffered, the mortality in proportion to the numbers attacked has been greater than that recorded during the prevalence of the former epidemic. As regards fever, there were 2916 cases attended by dispensary medical officers, being a decrease of 1369; and a decrease of twenty-one in the cases of scarlet fever treated, the numbers being 1238 and 1259 respectively. The Medical Charities expenditure amounted to £165,330, under which heading is included the cost of medicines and medical appliances, salaries of medical officers and apothecaries, vaccination fees and other expenses, showing an increase of £4939 over that of the previous year. The amounting to £189,177 18s. 4d.,

THE ACTION OF CHLOROFORM.

DR. HOBART A. HARE of Philadelphia has undertaken a *research into the action of chloroform* on behalf of H.H. the Nizam of Hyderabad's Government. The following is a copy of the letter which has been addressed to him by Surgeon-Lieutenant-Colonel Edward Lawrie:—

To Dr. HOBART A. HARE, Philadelphia, U S.A.

The Residency, Hyderabad, Deccan,
Aug. 13th, 1892.

MY DEAR DR. HARE,—In reply to yours of the 9th ult., I beg to note a few points in regard to the present position of the chloroform question which may be of interest to you in commencing *your independent* chloroform research on behalf of the Hyderabad Commission.

My students administer chloroform with perfect safety in all cases which *are fit for an operation. The principles on which our practice is* based are that the heart is never affected by chloroform except by *overdosing;* and that safety, or the avoidance of overdosing, is *guaranteed by regular breathing. It is not necessary to* add that the administration must not be pushed beyond full anæsthesia, because, if it is, the essential condition, which is normal respiration, cannot be maintained. *It stands to reason that if these principles* are unassailable they must be founded *on* sound physiology, and experiments on animals must accord with them. We are satisfied that the Hyderabad Commission's experiments not only do accord with them, but entirely confirm our clinical experience Our opponents assert that this is incorrect; they allow that our clinical teaching is right, but not on the grounds put forward by the Commission.

Dr. Gaskell believes that the lowering of the blood pressure by chloroform is due to weakening of the heart and is therefore dangerous, and that this action of chloroform is shown in the tracings of the Hyderabad Commission's experiments. The contention of the Hyderabad Commission is that the fall of the blood pressure under chloroform is in itself harmless, and is due to vaso motor narcosis. Dr. Gaskell says our clinical teaching is correct, but will never be accepted as long as we insist on what is not true—viz., that chloroform does not directly affect the heart. Our reply is—"Why, in order to get our teaching believed in, should we first of all adopt a theory which is altogether opposed to it?" Dr. Gaskell further says: "The true physiology on which your teaching is founded is that chloroform does affect the heart directly, but you never produce this action because you take good care not to give the concentrated vapour." This is not so. Our only fear of the concentrated vapour is that it may interfere with the breathing. (*Vide* Chloroform Report, pages 296-298.) If the breathing is regular we do not care how concentrated the chloroform is. *In support of this statement* the following record is quoted from the case-book of the Afzul Gunj Hospital:—

"*No.* 1432. Pentoo, delicate *female*, aged three years. Disease, abscess. Chloroformed at the Afzul Gunj Hospital at 11 h. 40 m. 30 s. on Aug. 9th, 1892. by student Mullanah. Time occupied in producing *full anæsthesia, 47 seconds.*

OBSERVATIONS.

H.	M.	S.	
11	40	30	Chloroform on cap, saturated; crying loudly; inhalation regular; cap held close over the face.
11	41	0	Unconscious. Natural breathing, quiet and regular.
11	41	10	Snoring.
11	41	17	Over; cornea insensitive; cap removed.
11	42	0	Incision made.
11	45	30	Operation and dressing finished.

"*Remarks.*—In this case the child began to cry loudly and continuously the moment it was placed on the operation *table. The* breathing was thus regular, and the chloroformist was told to keep the saturated cap close over the mouth and nose in order to prove to the clinical class that it does not matter how *concentrated the chloroform* is if the respiration is not irregular. Deep anæsthesia was produced in forty-seven seconds"

4. The experiments *of the Hyderabad Commission explain precisely* and clearly the reason why the administration of chloroform on Syme's principles is free from risk. It is not pretended that these experiments demonstrate exhaustively all the causes of the fall of the blood pressure under chloroform, but they prove that the fall of pressure from the *direct* effect of chloroform is harmless. This could not be the case if it were due to weakening of the heart, and *it is in all probability* entirely accounted for by vaso-motor narcosis. When the respiration is failing, or stops, from overdosing, the fall is increased by, and becomes dangerous in proportion to, the consequent *interference with* the action and nutrition of the heart. The action of the heart may be injuriously affected at any time during the inhalation of chloroform by abnormal or irregular respiration. Moreover, the vagus nerve may be brought into play and stop the heart and cause sudden falls of the blood pressure. These sudden falls are not of themselves dangerous, but they are warnings of asphyxia or of overdosing, or *of both* combined. They can never take place clinically if the respiration is properly attended to.

5. The whole controversy on chloroform turns on *one point. Is the* fall of blood pressure under chloroform harmless, as we say it is, or dangerous, as is asserted by our opponents?

6. *In the present state of our knowledge three main factors are* concerned in the lowering of the blood pressure shown in the tracings of the Hyderabad Commission:—

(1) *Narcosis of the vaso-motor centre or centres, due to the direct* action of chloroform. This is harmless and does not appreciably affect the pulse.

(2) Stimulation of the vagus, *due to the indirect action of chloroform.* This is also harmless, but is a sign of dangerous administration and stops the pulse temporarily.

(3) Weakening *of the heart from narcosis of the respiratory* centre and failure of the respiratory function, due to the indirect action of chloroform as regards the heart, the direct action as regards the respiratory centre. This is *excessively dangerous*, and if the respiratory function is not restored proves fatal It weakens and permanently stops the pulse

Clinically, lowering of the blood pressure is inseparable from the effective inhalation of chloroform, but the falls of pressure due to stimulatio of the vagus and weakening of the heart ought never to occur. *If the* do they are signs of improper administration or overdosing.

7. Our principles form the true guide to the only safe method o chloroform administration, which consists in the concentration of th chloroformist's attention on the respiration alone throughout the entir inhalation. The "direct heart" theory leads to attention to the puls at the expense of the respiration, and has undeniably resulted in certain percentage of deaths under chloroform over and above thos which are liable to occur from mere accident or carelessness under an system of administration.

8. It remains for scientists to demonstrate that these principles ar physiologically accurate, by experiments which will confirm and amplif the research of the Hyderabad Commission. *Unless the clinical and th* experimental aspects of physiology are at variance, which is obviousl impossible, it must be practicable to verify our clinical experience b physiological experiment. *Yours very sincerely,*

EDWARD LAWRIE.

THE PHARMACEUTICAL CONFERENCE A EDINBURGH.

THE pressure on our space in connexion with the Students Number led to the unavoidable *postponement of notice of th* very successful Pharmaceutical Conference at Edinburgh The address of the President, Mr. E. C. C. Stanford, was, a might almost have been expected, more a retrospect than forecast. Mr. Stanford was *one of the founders present at th* inaugural meeting in Newcastle in 1863; hence he coul scarcely *fail to find interest in the progress and the change* which have occurred since the foundation of these annua gatherings. In reviewing the progress he is clearly correc in summing up its teaching with the idea that th scientific, not the commercial, side must be considered first. Although every record of industrial progress seems necessarily *to have to deal with thousands and with millions,* an with the struggles by which these thousands and millions ar produced within our shores instead of abroad, it is none th less true that the initial step is most frequently taken without any idea of the future it entails. The step forward is probably made by some scientific worker who agrees with Mr. Stanford that in this purely commercial age "money is not everything." "We want *a diligent search for ne* truths, we are content to wait for their application." Naturally enough, in looking backward to the "littl inaugural meeting" held in a small room at Newcastl in 1863 the first thoughts to arise were tinged with regret i noting the serious gaps made in the ranks, and the President touched with sympathetic hand upon the deaths of Dean and Brady, of Hanbury, Stoddart, Williams, Mackay an Redwood, whom he described as "men with a halo around them, shedding light and love on all who came within thei benign influence, men abounding in an enthusiasm which was wonderfully catching." The indications of national progress during the lifetime of the Conference—the parcel post, the sixpenny telegram, the telephone, the phonograph, the microphone and the type-writer, which have all *had their bearings* upon pharmacy—led Mr. Stanford to regret that the typewriter was "unfortunately not yet used for prescriptions, though perhaps it would save more time in that than in anything." We have often dealt with the occasional illegibility of physicians' prescriptions, but we think that the time has scarcely yet come for the mechanical type-writer to be thus employed. Would a chemist be justified in *refusing* to compound a prescription signed with type-written initials? Would a *patient* be satisfied with a document which might perhaps have been entirely the work of a clerk, or if dictated, might possibly have been misunderstood? The changes in the employment of gas, of electricity and of steam power were briefly touched upon, and the great strides of hygiene were indicated *by the gratifying diminution* in the death-rate of both Edinburgh and Glasgow. In all these changes, however, the work of the pharmacist is less obvious than it is in connexion with some of the manufactures, where the introduction of new methods has practically revolutionised the work of thirty years ago. The new *science of chemical* engineering has sprung up during this period and has led to the *introduction* of the filter press, the hydro-extractor, the vacuum pan, the multiple evaporator, and many other inventions which have been of invaluable service to manufacturing chemistry and pharmacy. The alterations in the alkali trade and the improvements by which much of the material previously regarded as "waste" is now collected and utilised have formed marked features during the period under review. These changes have not only been a source of profit, but they have removed materials which formerly constituted serious dangers to health. The importation of frozen meat as the result of the application of the evaporation of volatile hydrocarbons, the enormous new industry consequent upon the recognition of the value of the coal-tar colours and the introduction of such antiseptics as carbolic, cresylic and salicylic acids, or of such febrifuges and anodynes as salicin, antipyrin, antifebrin and phenacetin, all indicate phases of progress in the application of pharmaceutical processes. It is true that the bulk of the manufacture of finer chemicals is in the hands of German chemists, who are still ahead in the education necessary for this work; but this knowledge should act as a stimulus to those who have to supervise the earlier training of the rising generation. Naturally, therefore, we have to consider what are the points of difference in English and German training.

Coming thus to the knotty question of education, although reference was made to the board schools and free libraries and the general improvement in the establishment of State [illegible], there did not appear to be much that was satisfactory to record in secondary, technical and university education, and the tardiness in the establishment of a real teaching university in London was compared unfavourably with the rapid educational advances of Germany. Dealing more purely with pharmaceutical education, Mr. Stanford quoted from Dr. Stevenson "that many young men of defective education still unsuccessfully attempt to enter upon the business of pharmacy, most of them failing in simple arithmetic." This defective school training is the greatest drawback to the due elevation of pharmacy, and it is one of which the Pharmaceutical Society are fully conscious.

The sale of poisons and the ethics of patents, more particularly of patent medicines containing poisons, were dealt with in strong terms not devoid of humour, and the remarks of THE LANCET upon the recent action taken by Government against the proprietors of chlorodyne were referred to approvingly.

It is impossible in the space at our disposal to follow in detail all the interesting and suggestive topics touched upon in the course of this address. A few sly hits were made at the medical profession, one being the quotation of the following advertisement from a Glasgow daily paper: "To Druggists.—Wanted, young woman or youth to keep doctor's shop for a week." The concluding remarks, however, concerning young pharmacists might find a wider range of cheering application: "If they are the least afraid that there may be any difficulty in finding a place for a well-educated man, let me remind them of the saying of a canny old Scotchman, so characteristic of his persevering race—'There's aye room at the top.'"

THE MIDWIVES' REGISTRATION BILL.

The following is a brief digest of the evidence of the witnesses who have been examined before the Select Committee of the House of Commons appointed to consider the question of the Compulsory Registration of Midwives. The following Members were nominated to act on the Committee:—Mr. J. A. Bright, Mr. Tatton Egerton, Dr. Farquharson, Sir Frederick Fitz Wygram, Dr. Fox, Mr. Howorth, Sir Guyer Hunter, Mr. [illegible] Pease, Mr. Rathbone, Mr. Stephens and Mr. Arthur Williams.

Dr. Leith Napier detailed his long experience and extensive practice in midwifery. He dwelt on the necessity of the services of midwives in the country and out lying districts, it being impossible in [illegible] for medical practitioners to undertake all the midwifery [illegible]. He referred to the uneducated and untrained character of [illegible] of midwives. He did not think that medical men would [illegible] a system of registration of midwives, but he took exception [illegible]. With regard to the control of registered [illegible] by the County Councils, he would like the registration to be [illegible] a central council, elected from county councils and [illegible] examiners. The term "registered midwife" would, he [illegible] reward for having passed the Obstetrical Society [illegible]. It would be an advantage, he thought, if students [illegible] their cases by trained midwives. London [illegible] field for the training of midwives. Asked by [illegible] he expected midwives to attend only natural [illegible] what definition he could give of natural labour, he [illegible] to be impossible to agree upon a precise definition [illegible]. He [illegible] by the term "natural labour" [illegible] was not to employ instruments in [illegible] to perform what were called major operations [illegible] that in the event of any decided obstacle [illegible] the services of a medical man; [illegible] trained in such a way that in the [illegible] be punished [illegible] would be for the circum[illegible] there were some cases of arm presentation [illegible] the mother's life as well as the child's by timely interference; and it seemed to him, although this was not a natural labour, that she would not be exceeding her functions if she was conserving life. It would be extremely difficult to make it a penal offence to sometimes interfere in that way. Natural labour was a well-understood term, and if it were left to a controlling body to say whether a woman improperly exceeded her functions, it would be a simple matter to withdraw her certificate. There were twenty-five different definitions of natural labour, and one of the great exponents on the other side gave a definition of natural labour which to his mind it was absolutely impossible to accept.

Miss ROSALIND PAGET, Treasurer of the Midwives' Institute, said there were ample facilities in London, Liverpool and Glasgow for good training in midwifery. The total number of midwives that had passed the examination of the Obstetrical Society was 1184. The distinction between a monthly nurse and a midwife was, in her opinion, that the monthly nurse worked under the doctor, and was under his directions and orders in the same way as was a general hospital-trained nurse. A midwife, however, worked by herself, and only called in a doctor when she saw need; therefore there was more responsibility in her case. A monthly nurse simply waits on the doctor. She objected to women calling themselves midwives unless they had been trained for such responsible duties.

Miss REBECCA V. GILL, Secretary of the Workhouse Infirmary Nursing Association, deposed that there was a great waste of training material in such limited use being made of the workhouse infirmaries of London and many of the large provincial towns. Kensington was the only workhouse infirmary that took pupils. The Association with which she was connected had trained twenty-five midwives.

Dr. J. H. AVELING, consulting physician to the Chelsea Hospital for Women, stated that for thirty-three years he had been endeavouring to forward the amelioration of midwives in this country. He had written and talked a great deal on the subject. He would divide the remarks he had to make under two heads: public utility and public safety. On the first heading he would simply say that during all time there had been a demand for the supply of midwives. Midwives were useful to medical men themselves in relieving them of tiresome and unremunerative work, and in acting for them in cases where they were not able to arrive in time to officiate. It often happened that they were engaged with other cases, or were visiting at a great distance, and therefore unable to arrive in time to superintend a confinement; and then it was a great source of comfort to have a competent assistant to do the work for them, and in natural labour a midwife will do that efficiently and safely. Again, midwives are indispensable to the poor women of this country, whilst a doctor is a luxury they cannot afford. When a doctor attends he requires a larger fee than a midwife, and another person in the shape of a monthly nurse is required to do other offices which the medical man could not and would not do; consequently, there are two expenses when a medical man is employed. When a midwife officiates she fulfils both offices; she does the act of the doctor and of the monthly nurse, and in this way economy is effected. Midwives must therefore always be necessary for the help of poor women. Further, it had been computed that there are in England and Wales from 10,000 to 15,000 women acting as midwives who attend annually 450,000 labours. The number of women following this calling and the extent to which they are employed show how great is the public demand for the services of midwives. He proceeded to give the data on which he based the calculation that by the employment of properly trained midwives the number of deaths in childbirth might be reduced from 4500 to 1500 a year. He laid down as a proposition that no woman should be allowed to call herself a midwife unless she had been trained and registered, this being the object of the present Bill. There was no intention to interfere with women acting as midwives, though they were not registered, so long as they did not assume the name of midwife. Asked whether he could define natural labour, he replied that the lying-in hospitals had no difficulty in defining it; they all defined it, and the midwives of the different hospitals knew what cases they were to attend and in what cases it was necessary to send for help. He believed it would be a great advantage to the medical profession if the training and position of midwives were improved. In his view public utility and safety had to be considered before the advantages and remuneration of the medical profession. In answer to the Chairman, he stated that it was from seeing in his own practice so much damage resulting to women from the want of proper attention that he was induced to take up this question thirty-three years ago. He saw several deaths from the malpractices of midwives, more especially in arm presentation cases, where the child is very seldom born without assistance. In these cases the midwives allowed their patients to go on, hoping that nature would complete the labour, and it ended in the death of the patient. Death did not represent all the misery caused by malpractice.

Dr. RENTOUL was the next witness. He stated that if midwives were registered it would practically repeal the Medical Act of 1886, for by the Medical Act of 1858 any person who was qualified as a physician or surgeon, or apothecary had the power of being placed on the Medical Register. By this system the country was supplied with a number of what we call partially educated or partially qualified medical practitioners. This was recognised to be a public evil, and when in 1882 the Royal Commission was appointed to report on the Medical Acts, they said: "It is our opinion that the holding of a licence ought to be conclusive evidence of sufficient proficiency in medicine, surgery and midwifery"; and consequently, when the Medical Act of 1886 was passed, Section 2 enacted that "on and after the appointed day a person shall not be registered under the Medical Acts in respect of any qualification referred to in any of those Acts unless he has passed such qualifying examination in medicine, surgery and midwifery." For a considerable time there has been a tendency to dissociate the practice of midwifery from the practice of medicine and surgery. The nickname of "man midwife" had been applied to doctors who had the courage to try to raise midwifery to the level of medicine and surgery, and [illegible] helped to do away at least with the terrible mortality that affected lying-in women. The Royal College of Surgeons of England refused to admit any medical practitioner to their Council who practised midwifery, and up to some time ago the Royal College of Physicians refused to give their fellowship to any person who had practised midwifery. Even yet there was a strong tendency to dissociate the practice of medicine from the practice of midwifery. Many members of the profession held that if we had a new Act passed to register a certain class of persons in this country to practise midwifery the Medical Act of 1886 would be at once repealed. The first Midwives Bill said that women were to practise as midwives, not as medical practitioners, but that same Bill gave the midwife power to claim a fee in a court of law for any obstetric operation. Therefore, though called a midwife, she would have had power to claim fees in a court of law as a medical practitioner had. This was recognised as an evil, because in the second Bill her duties were defined to attend cases of natural labour only; but as the term "natural labour" was not defined in that Bill, and more especially as no penalties were imposed upon any midwife who had exceeded her duty, it was practically useless as defining the duty of a midwife. He went on to state that it was the practice in foreign countries not to tie midwives down to cases of natural labour. Another argument used by the witness was that in this country it would be impracticable to have midwives thoroughly supervised, and he submitted that the registration of a low order of midwife practitioners would increase criminal abortion and criminal still-births, and that still-births should be registered in this country as was done in all other European countries except Russia. He further adduced evidence to show that the working classes were already thoroughly provided for in maternity cases through the means of friendly societies and other agencies. He dissented from the view that the practice of midwifery had improved or that the mortality had decreased, and took strong exception to the proposal that medical students should accompany highly trained midwives in their practice. He also pointed out that, as if it was true that a medical student, after four years of study and medical training, including a complete course of obstetrics and gynæcology was not qualified to attend midwifery cases, even of a simple character, except at his own risk, it would be absurd for this committee to recommend a change in the direction of legally qualifying women for practice of this kind who had no previous knowledge even of the elementary facts of physiological processes or of therapeutics after a perfunctory course of three months' training in a maternity hospital. In conclusion, Dr. Rentoul did not see the necessity for any legislation upon the question at issue, and disapproved of the creation of any new order of medical practitioners. The demand for midwives was only made on the ground of cheapness.

Mrs. M. H. Martin was called in and examined. She had had experience in the superintendence of midwifery in the country district of Upton-on-Severn. She quoted instances of very unsatisfactory results arising from the untrained character of midwives. Great improvement had arisen since the introduction by the witness of trained midwife nurses. Mischief arose from untrained women neglecting to send for the doctor in time of danger, and this was where the services of trained midwives were valuable.

Dr. Lovell Drage who had had extensive practice in maternity cases in country districts and had been assistant in the out-door maternity department of St. Bartholomew's Hospital, objected, on the ground of principle, to the last Registration Bill. He took objection to the principle of the registration of midwives because it reversed the policy of the last Medical Act. In his evidence he quoted a case to show the necessity for a complete training in medicine and surgery for those who practised midwifery. He opposed any introduction into the profession of an uneducated class of people on general educational grounds. This was a proposal for establishing a class to attend the poor inferior to that established for the rich. Dr. Drage then proceeded to consider the report of the Committee of the Royal College of Surgeons appointed to inquire into the principle of midwives' registration. Six members of that Committee were avowed champions of the principle of registration. Drs. Priestley, Playfair, Farquharson and Champneys, the obstetrical and other bodies, had all shown their leaning in favour of the registration of midwives. The Council and the Fellows were not representative of the profession at large. He called attention to the result of midwifery practice in Austria and Hungary which had been related in a paper by Dr. Walker and read before the Carlisle Medical Society. The paper contained the following statement:—"Legally all other persons are forbidden to act in the capacity of a midwife, but practically the law is a dead letter, and quite a number of women, especially in the country, are attended by their friends, just as with us. Accusations of malpractices are rare. When they are brought they are tried before the ordinary courts and the punishment is summary. Unnecessary delay in sending for a physician is also punishable, but of course such a thing is difficult to prove." The speaker hoped the Committee would bear that statement in mind, because it was a very true one. "If it can be proved, the midwife is severely punished." Then, Dr. Walker further says, "One point which I especially inquired about was the result to the perineum." He did not know whether he ought to explain to the Committee these technical details, but he thought the Committee ought to understand this: that these accidents to the perineum are practically tears of the part of the body between the two passages, and it is a very important matter that these tears should be sewn up at once and properly treated. So therefore Dr. Walker inquires specially as to the result of these accidents in the case of midwives' practice. He says: "My informant admitted that a very large proportion of ruptured perineums occurred and were concealed. The midwife is obliged to call in a physician to undertake the repair, and very frequently (and naturally) ignores its existence, lest the rupture should be considered due to her want of skill. He hoped, however, as each succeeding class of midwives were better educated, and realised more the importance of the rupture, that this proportion would grow much less." But that is only a hope, and that hope, Dr. Drage was quite sure, would be illusory in this country. "Regarding the public attitude to the system, he thought that the sex generally preferred to be attended by women" (that is, the Austrians); "but he admitted that in the richer classes a physician was almost always present, although the midwife conducted the labour; and also that, year by year, the proportion of those who were adopting the English custom of being attended by a physician was becoming larger. With regard to 'man-midwifery' in the lower classes, he said that a man who had time to attend to that class of patient" (Dr. Drage presumed he meant here) "must be very hard up for work, and was much to be pitied. I may say that the English ladies here are, without exception, dead against the system, and complain bitterly of the extraordinary difficulty they have in getting a physician to consent to attend them. Attendance on such cases is considered *infra dig.*, even by a parochial medical officer—that is, in Austria. My informant, however, regretted that the custom prevented the young men from acquiring a real thorough experience of the difference between a normal and an abnormal case." That last statement brought the speaker to another point which he ought to have mentioned before, on general educational grounds. He did not wish to boast about it, but when he left London he had had much more experience in midwifery than a great many other students; he had lived in the hospital a long time, and had had a large practice in the maternity department; but he could only assure the Committee that he was extremely glad to be able to have that large practice that could be got amongst the less rich people to improve his own knowledge and to keep up the experience he had already gained; and he thought it would have been a very great disaster to his own proficiency in the art if he had had to go into practice and wait for years and years before he had any run of midwifery work. Dr. Drage thought that poor women had a perfect right to have the best assistance attainable, and the profession did not object to legislation which would really benefit the poorer classes, but they did object to that which they knew would not benefit them in the slightest degree. He then proceeded to the consideration of the position of the Obstetrical Society in this matter. The result of polling the Society by a postcard on the subject showed that the Society as a whole was not in favour of the proposed legislation, although its council stated that it was. The British Gynæcological Society by an overwhelming majority were against the proposal. Regarding the position of the British Medical Association, he stated that the opinion of the members had, in fact, never been taken. He then proceeded to point out that a large number of certificated midwives were in existence at the present time, and he asked why they did not minister to the wants of the population. In the Union of the rural sanitary district of Hatfield during the last six years the average number of births had been 192 and the puerperal mortality 5 per 1152 births; the number of cases yearly attended by a medical man exceeded 160 It was impossible to base the plea for legislation upon statistics, and he took exception to Dr. Aveling's statistics of mortality in maternity cases and to his conclusions generally in favour of certificated midwives. One reason why women would not give up their present ideas about attendance was that at the lying-in period they required someone who would nurse them and look after their household as well. The result of the establishment of a licensed class of midwives would be interference with the licensing of medical students. At present there was no disinclination on the part of women to be attended by students. Among the reasons which had led to the present demand for legislation he mentioned that an artificial stimulus had been given to the employment of midwives, and also that the doctors who were attached to the training schools for midwives naturally desired legislation in their favour. They formed the fallacious idea that all outside practice was bad and attended by a high rate of mortality. And, finally, there was the idle sensational talk encouraged at tea tables on the subject of the attendance upon the poor.

Dr. Lombe Atthill was the next witness called, and had been deputed by the Irish branches of the British Medical Association to give evidence. While objecting to registration, he desired to see women educated. There appeared to be an idea that registration would bring about education and render efficient the class of midwives that would appear on the roll hereafter. He objected to registration because if an official register were in existence it required to be purged from time to time; and with his experience on the General Medical Council with regard to medical men that was a most troublesome and costly matter. Continuing his evidence, he said "no registration would prevent the practice of unqualified women. The Medical Registration Act had not diminished the number of unqualified practitioners in the least, and if a Registration Bill for midwives were passed to-morrow and registered any number you like, from 500 to 50,000, you would still have uneducated women practising as midwives, because necessarily they can be obtained cheaper" Medical experts must be paid proportionately. Registered women are to be allowed to attend natural labour. If the midwife takes a case that is not natural labour and the patient dies, there is an inquest, and she is suspected of malpractice. County councils would not be fit bodies to investigate such cases. He continued: "Registration does you no good. Registration is only of use so far as to prove that the person is on the Register, and even that is not necessarily correct; a death vacancy may occur, or a man may fail to register. I would further point out that registration does not preclude you from practising. It is not proposed to give these women the power of signing certificates. And actually you gain nothing by registration. But education is good, and I advocate education while I disprove of registration. If registration is ever to be brought into force I contend that it should not be for ten years, until a system of education has been carried out. If it is essential that a woman in a hospital should not be licensed to be a nurse, although she is in a ward under the constant supervision of the sister and with medical men over her, with not less than twelve months' training, how is it possible that three months should be sufficient to qualify in midwifery? I have trained many hundreds of midwives and examined them, but I have been very much surprised myself, after taking the greatest pains week after week in instructing these women, at the confusion of their minds at the end of that time as regards what I may call the rudiments of midwifery. Remember you are going to take illiterate women—women, I mean, from the class of servants probably; you will not get ladies to go into midwifery practice to any extent in the country, it is too irksome; you will have to take women very much of the class of upper servants. You know what their style of reading and writing is. You begin to teach them anatomical names—the pelvis, the uterus &c.—and they do not get these names into their heads in three months. Yet it is proposed to register these women and to send them out into the country in three months. It ought to be three years. The very minimum should be six months. If you pass a Bill at all I would urge on you to see that you make education and not registration the chief thing. And I will say I would sooner be attended by, if I were a woman, or would sooner place my wife or daughter under the hands of an absolutely ignorant woman than under the hands of one who has a small smattering of knowledge. The accidents I have known have come more from the one class than the other. I believe there is more harm done by the maleducation of the medical student than there is by the practice of absolutely illiterate women, for the ill educated student will do things which an illiterate woman will not do."

Dr. T. Ernest Hayward was the next witness. He had been for twelve years in practice at Haydock, Lancashire, of which urban sanitary district he was also medical officer of health. The evidence which he would offer to the Committee would consist chiefly of facts within his own knowledge relating to the extent to which, in the part of Lancashire known to him, midwifery was being practised by untrained and ignorant women, and the dangers to mothers and infants arising in consequence. The population of Haydock was [illegible]. The number of births for the past three years averaged [illegible] per annum. Of these scarcely a fifth, witness believed, were seen at any stage by a medical man. Most of the cases were attended by ignorant old women, and a doctor was only sent for in case of danger, often too late. Witness also quoted from the annual report of the medical officer of health of the neighbouring county borough of St. Helens, the population of which is over 70,000, the following, occurring in a paragraph relating to puerperal fever: "The great majority of accouchements in St. Helens are attended by midwives, a large number of whom have no other qualification than that of being mothers themselves." To illustrate the appalling results which often occur for want of the most elementary knowledge on the part of these women, witness gave, out of a large number which he had become acquainted with in his experience, brief outlines of three cases. The first, a multipara, died of post-partum hæmorrhage. She had been left by the midwife without her even finding out that anything was wrong. Again, a multipara died of rupture of uterus. The head had been impacted for many hours, help not being sent for until two hours after rupture had occurred. The third instance was the case of a primipara who died of puerperal septicæmia. It was afterwards found that the midwife had attended her while suffering from erysipelas of the finger. Having stated these facts, the only opinion which witness could venture to express to the Committee was that some action was called for from the Legislature to remedy the existing state of things. Witness believed also that it would not be to the disadvantage of the medical profession for there to exist a class of properly trained and certificated midwives.

Mr. FRANCIS ROWLAND HUMPHREYS showed, from statistics obtained through the medium of the Midwives' Institute and Lying-in Charity of Guy's Hospital, that where properly trained midwives were employed the percentage of mortality was very low. He thought that midwives who were trained to pass the Obstetrical Society's examination were well qualified. He advised, however, the supervision of midwives after the three months' training for as long a period as possible. The witness contended further that midwives should not attend cases of miscarriage, but only cases of natural labour at full time. In his opinion it was desirable that all midwives at present in practice should be placed on the Register on producing satisfactory evidence of fitness for their calling. He submitted a paper to the Committee showing what was required by the Obstetrical Society in the ordinary course of their examination, and expressed the view that a knowledge of medicine and surgery would be of little use to midwives, as they would gradually lose it on account of lack of opportunity of applying their knowledge. As far as midwives were concerned, the pulse was the only thing that was of much use to them.

Mrs. MALLESON, Hon. Sec. to the Rural District Branch of Queen Victoria's Jubilee Institute for Nurses, stated that her interest in the subject before the Committee was unprofessional, and arose from observation of untrained midwifery in a remote rural district during ten years. It was at first difficult for her, as for other interested observers of village life, to realise that the poor country women were, as a rule, attended in childbirth by wholly untrained midwives, doctors being called in only in cases of difficulty or danger. The class of women who had the hardihood to take this attendance upon themselves were quite illiterate and ignorant, eking out a livelihood by work in the fields and other rough occupations. They were incapable of discriminating between normal and abnormal labour, often sending for the assistance of medical men either needlessly or too late. They had no knowledge of what should be done in the slightest emergency, and no resource. They were ignorant of the most elementary principles of nursing, of the sanitary keeping of a patient's room, and, it was scarcely necessary to add, completely without experience of the modern methods of treating lying-in patients. It was, she said, no uncommon thing for them to allow their patients to be delivered on the floor, and it was customary to give spirits to women in and after labour. They did not unite the offices of monthly nurse and midwife, as trained midwives often did, and very commonly allowed the poor mother to be downstairs on the third day after her confinement. They were without any knowledge of the proper treatment or feeding of infants and were incapable therefore of counselling mothers in the care of their children. The consequence was an amount of suffering and want of healthy development in children alarming to any who counted the results to the next generation. As it was impossible for poor men earning the average agricultural wages to pay the ordinary doctor's fee of one guinea, it was clear that there must be improvement in the class of midwives if the evils mentioned were to be abated.

Dr. W. GRAILY HEWITT stated that there were about 10,000 midwives in England, and that about three fourths of the labours in England were attended by midwives. In many villages the percentage of cases attended by midwives amounted to 90. He expressed the opinion that the evil of the incompetency of midwives was serious enough to require legislative interference, and urged the utility of registration as a means of enforcing the proper education of midwives. He agreed, however, that if all the midwives now in practice were put upon the Register there would be a danger of a practically unqualified woman being considered as good as a really experienced midwife. He gave an account of the mode in which the practical teaching of midwifery was conducted at University College Hospital, and stated that the pupils were never allowed to undertake a case alone until they had [illegible] three or four cases. He suggested that the Medical Council might [illegible] the Obstetrical Society for the examination of midwives, while the duty of removing the names of persons from the Register might be handed over to the local bodies.

Dr. W. S. PLAYFAIR stated that when the Obstetrical Society started its examination in the year 1872 he had a great deal to do with its [illegible]. He gave evidence to the effect that the council of the Society started the examination because of the complaints of the evil effects [illegible] from the ignorance and incapacity of a large number of the [illegible] then practising in the country. He agreed with the view [illegible] to the education and qualification of women as midwives [illegible] from a very small section of the medical profession. Few of [illegible] any objection to these, but the question of the registration [illegible] was a different thing. He believed that something like [illegible] women were practising as midwives at the present day. [illegible] was very small, but the figures he had [illegible]. It [illegible] him to speak of the necessity of a [illegible] of antiseptics, and of registration, in order [illegible] midwives.

Mrs. ZEPHERINA P. SMITH, the President of the Midwives' Institute, stated that a properly trained midwife could diagnose danger before it was actually present in a confinement case. Her opinion was that the training now given to midwives in most schools was satisfactory. There was a disinclination among the members of the Midwives' Institute to oppose any legislation that would protect poor women from incompetent midwives. She suggested two classes on the Register, one consisting of the midwives now in practice, and one for those registered after examination.

Dr. JAMES EDMUNDS advocated a State examination for women in midwifery and the auxiliary branches of medicine. Women who have passed such an examination should be registered by some provision appended to the Medical Acts, and in relation to the general practice of medicine they should occupy the position of educated specialists, analogous to that now occupied by dentists. The practice of midwifery should be severed as far as possible from attendance upon infectious cases, and from the duties of the post-mortem room. Much of the mortality now incident to childbirth arises from infection brought into the lying-in room by the general practitioner, and this factor in the mortality of childbirth might be got rid of almost entirely by the employment of specialist midwives. The professional knowledge and skill necessary for such women would be acquired in from twelve to eighteen months' steady work under proper scholastic and clinical provisions. Over one hundred ladies were educated upon this basis some years ago by the Female Medical Society, and those ladies have since done valuable work in various parts of the world. Four to six months' training under proper clinical surroundings might suffice for an obstetric nurse such as might be needed for isolated villages, but the registered midwife should have from twelve to eighteen months' thorough training. He would let such midwives get their professional knowledge anywhere and anyhow so that they passed an adequate examination, and the passing of such examination he would make the sole qualification for putting them upon the Register. He would have free trade all round in medical teaching. The women should be not of the servant class, but of the governess or Board School mistress grade. Their fees he would leave to be settled between them and their patients, precisely as is now done with medical men. Whether they took *5s.* or 100 guineas would be no one else's business. In country districts the average area through which such a woman would practice would have a radius of about five miles round her home. She should deliver the patient, see her settled in bed, wash the baby before leaving, and give such directions as were necessary to the nurse or neighbour who looked after the patient. She should visit the patient again next day, then on the fourth and seventh days, and perhaps once more. If any intercurrent illness occurred she would turn the patient over to a medical man. Such women would be of great value in their districts, and they would make a much more comfortable living than they now do as governesses or Board School mistresses. They would easily earn £150 a year, and they would acquire much the social position of the village curate. He would make it a stipulation that they did not attend any infectious medical cases. He would encourage such women to fit themselves for all the emergencies of labour and to do operative midwifery if they felt able to do so. In many cases where there is an adherent placenta to be removed or a version to be performed a woman has a great advantage over a man in the small size of her hand, and she could safely intervene in such cases at an earlier period than a man could. The question of the mortality in childbirth among the existing class of midwives and among gentlemen practising midwifery as well as general practice was discussed by Dr. Edmunds in a letter to *The Times* of October, 1865. It appears that uneducated midwives have a smaller mortality among the patients than have the medical men. The reason he believed to be that infectious poisons are conveyed into the lying-in room by the general practitioner, and he thought that casualty is practically unavoidable under the conditions in which general practice has to be pursued in connexion with the practice of midwifery. The education and registration of midwives would not in the least injure the vested interests of existing medical men. All that would occur would be the gradual infusion into the professional recruits of a certain proportion of registered midwives. In many cases such women would be the sisters of the men who now go into general practice—such women as now devote themselves to skilled nursing.

Mrs. MARY SCHARLIEB, M.D., spoke of the necessity of the registration of midwives in order to protect mothers in the poorer classes from the serious consequences of the carelessness, ignorance and negligence of unqualified women. High-class Mahomedan and Hindoo ladies were never attended by men in their confinements. She explained that after an expensive education it would not pay lady doctors to take midwifery practice alone, but they would expect the midwives to call them in, as medical men were called in, in case of difficulty. She approved of the term "licensed midwife" being used, provided that it was duly published and recognised. She stated that in her view any Registration Act should be prospective, the date for its coming into force being postponed for such a time as would enable existing midwives to qualify.

Dr. CHAMPNEYS had no doubt that the registration of midwives was highly desirable. From time to time instances of gross malpraxis occurred, displaying ignorance which could not exist in any trained midwife. As regarded the duration of training, more prolonged training would certainly be better, but most of the pupil midwives at the hospitals were too poor to be able to afford it, and the hospitals were too poor to reduce their fees. The training of a midwife was intended to be strictly limited, but within those limits thorough. She was expected to possess a good knowledge of antiseptics and of the treatment of emergencies till the doctor arrived. She was not expected to practise as a doctor. There ought to be a power of depriving a midwife of her diploma for any such encroachment. An advertisement or notice to the effect that Mrs. [illegible] is at home to see patients between certain hours ought, in his opinion, to be considered such an offence. As regarded the effect of the spread of qualified and registered midwives over the country on the practice of medical men, he had had contradictory opinions given him by country doctors. To some it would be the greatest relief to be deprived of poor midwifery practice; others feared a reduction of their fees and others a reduction of their experience. He believed that the doctors of a country district would not generally lose money if they all worked together, for they would probably be able to get [illegible] fees for consultation cases which midwives would not be able to deal with. In his opinion also a doctor who attended a large amount of poor midwifery was rarely in any good sense experienced, for the work.

and-tear was such that he could not think about his cases. He likewise considered that the public might justly prefer a midwife properly trained in antiseptics to an overworked medical man. The great test was the good of the community, and this was the only true claim of the medical profession to existence at all.

Dr. DANFORD THOMAS gave his experience. He had been in practice fifteen years, and had been one of the coroners for London for eleven years. His experience was that there were three classes of midwives—a small and useful class, who held a certificate; an uncertified class, obtaining knowledge simply from their practice; and an utterly ignorant class, consisting chiefly of old women. The poor were unable to discriminate between the educated and the uneducated class. He said: "I have held inquests in half-a-dozen cases which come to my recollection during the last ten years, in which either the death of the woman or the child has resulted from the ignorance of the midwife. In one case, although she was warned by a neighbour of the danger the patient was in, the midwife protested that everything was all right and would be all right presently, using the favourite expression, 'Let her alone, she will do well,' simply because she had no knowledge that it was a case of what is called 'placenta prævia.' The woman bled to death. She refused to have a doctor, and the husband agreed with her, as he had great confidence in her statement that no doctor was required. An educated midwife would have recognised the condition and would have sought medical aid. I may say that the more educated the midwife is the more quickly and the more frequently does she seek medical aid when it is wanted. She recognises the danger and gets the assistance that is necessary. The uneducated woman will let the patient go on to the very last. Jealous of her supposed knowledge, and not wishing the relatives to know that she does not understand the case, she goes on to the last, and sometimes the woman dies and sometimes also the child. I have had cases where an infant has bled to death from the very incompetency of the so called midwife even to tie the cord properly. I therefore think that if there were first of all the proper training of midwives and the examination with registration it would be a great advantage to the community; that the medical profession would have nothing to fear in any shape or form from these ladies, as they would be extremely limited in number under any circumstances." He concluded that the registration of midwives would be a great advantage to the community in general. It was immaterial to him whether the terms "registered," "licensed," "certificated," or "chartered" were used, provided that adopted indicated that the midwives were properly certificated by a central legal body. If a small fee were charged for registration he did not see what difficulties were in the way of keeping a register of midwives.

Mr. GEORGE BROWN gave evidence at the request of the Council of the General Practitioners' Alliance in opposition to the proposal to register midwives. He protested against ignorant and partially educated women being recognised by law as competent to practise midwifery. He insisted that no one who had not a complete education in medicine and surgery as well as in obstetrics was qualified for such practice. To legalise registration diplomas would be, in Mr. Brown's opinion, to undo all the effect of the Medical Act of 1886, as it was impossible to determine where natural labour ended and abnormal labour began. He objected to registered midwives being allowed to administer drugs to their patients, and he stated his belief that if midwives were registered an agitation which could not be legally resisted would immediately spring up for the registration of men, a proceeding which would be the death-blow to all Acts of Parliament regulating the practice of medicine.

Dr. W. H. FENTON urged the expediency of midwives being registered in order that they might be improved and controlled.

Dr. HUGH WOODS said that many doctors objected very strongly to the legal registration of midwives, while having no objection to the highest training, or even registration, of monthly nurses. He said that midwives were a relic of the Dark Ages, and that until the sixteenth century, so long as midwifery was in the hands of women exclusively, no advance was made in the art. He considered that the proposed registration of midwives aimed at preventing the natural and desirable extinction of that class. He maintained that a very large part of the mortality of childbirth occurred in the so-called normal cases, and quoted the opinion of Dr. Engelmann of St. Louis from "A System of Gynæcology and Obstetrics by American Authors," to the effect that one of the great causes of the extreme mortality in parturition in the older countries is the persistence of the prejudice that normal labours can be sufficiently well attended by midwives. He cordially agreed with that opinion, and discouraged the idea that normal labour does not require the most skilled treatment. He argued that it would be impracticable to prevent others than registered midwives from giving help to women in confinement, and that unless this was done the mere conferring a monopoly of the title "midwife" on certain persons could have no value. He remarked that as all *bonâ fide* midwives would be put on the Register at the commencement, it would include for many years many drunken and disreputable women; while so soon as it ceased to contain any but highly trained women, the payment required by them would put them out of the reach of the very people for whom they were apparently intended. They would, he thought, compete directly with doctors for attendance on the lower middle classes. He insisted that every confinement ought to be attended by a fully qualified doctor, male or female. He felt that it would be a great anomaly for a woman with three months' training to be registered as qualified and entitled to recover fees for what is certainly about the most difficult part of medical work—namely, attendance on confinements; while an F.R.C.S. is not legally qualified to tie up a cut finger without being also qualified in the other branches of the profession. The mortality in childbirth, he said, never fell much below 1 or 2 per cent., so that it could not be looked upon as a mere physiological act; for physiological acts such as eating &c. did not involve death once in two hundred times. He said, finally, that what he and other doctors objected to was the giving to women a legal qualification to practise as doctors under the name of midwives. In reply to questions from members of the Select Committee, Dr. Woods said he thought certificated nurses did already distinctly act as doctors under cover of their certificates as nurses. He entirely disbelieved the statistics, which professed to show that a greater percentage of deaths occurred under the care of doctors than of trained midwives. Cases usually passed into the hands of doctors when death became imminent, and so went to their credit. He considered that legal registration would be giving a guarantee of competency where competency was non-existent. His experience was that midwives did not, even when well trained, recognise the signs of impending danger. He thought that the practice of midwives without the help of doctors might be checked by coroners reprimanding them for undertaking sole management in cases where death occurred. He felt sure that any certificates of the competency of midwives before putting them on the Register would be useless as a safeguard, and said that medical men would decline the responsibility and odium of deciding as to the merits of women with the talent of the fair sex for damaging character. He thought the employment of midwives would die out gradually if they were let alone. He said that ladies preferred men to attend them, and he saw no objection to it. He said that if midwives had so enormously less a mortality, as was contended, than medical men, the latter must be dangerous animals who ought not to be employed. He thought doctors very seldom conveyed infectious diseases to their patients. As regarded the actual general mortality in childbirth, he thought a ½ to 1 per cent. was a pretty fair estimate. He found that poor women got over their confinements very well when attended by a doctor with mother or other relative as nurse.

The following is the report which the Committee have agreed upon, and of which we have already published the main points:—

"Your Committee have sat six times and have taken most valuable and important evidence from medical men and practitioners in various spheres of practice both in favour of and opposed to the registration of midwives, and also from trained and experienced midwives. This evidence has shown that there is at present serious and unnecessary loss of life and health and permanent injury to both mother and child in the treatment of childbirth, and that some legislative provision for improvement and regulation is desirable. They have also had evidence showing that there is a wide field for training in midwifery now unused connected with parish infirmaries and home practice in populous places. Their inquiries have been cut short by the approaching early dissolution of Parliament, and they therefore report the evidence and recommend a continuation of the inquiry in the next session of Parliament."

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6100 births and 3878 deaths were registered during the week ending Sept. 3rd. The annual rate of mortality in these towns, which had been 18·0 and 18·5 per 1000 in the preceding two weeks, further rose last week to 19·8. In London the rate did not exceed 16·6 per 1000, while in the thirty-two provincial towns it averaged 22·2 per 1000. The lowest rates in these towns were 11·8 in Halifax, 13·6 in Nottingham, 14·5 in Bradford and 15·0 in Burnley; the highest rates were 26·1 in Leeds, 28·6 in Sheffield, 31·8 in Bolton, 33·7 in Salford and 37·8 in Preston. The 3878 deaths included 984 which were referred to the principal zymotic diseases, against 678 and 830 in the preceding two weeks; of these, 728 resulted from diarrhœa, 72 from measles, 62 from scarlet fever, 54 from diphtheria, 44 from whooping-cough, 23 from "fever" (principally enteric) and one from small-pox. The lowest death-rates from these diseases were recorded in Halifax, Derby, Bristol and Swansea, and the highest rates in Sheffield, Leeds, Salford, Bolton and Preston. Measles caused the highest proportional fatality in Salford, Huddersfield, Brighton and Oldham; scarlet fever in Preston and Swansea; whooping-cough in Nottingham and Preston; "fever" in Portsmouth and Birkenhead; and diarrhœa in Gateshead, Hull, Leicester, Cardiff, Sheffield, Salford, Leeds, Bolton and Preston. The 54 deaths from diphtheria included 34 in London. 4 in Salford, 3 in Manchester and 3 in Oldham. One fatal case of small-pox was recorded in Halifax, but not one in London or in any other of the thirty-three large towns. Five cases of this disease were under treatment in the Metropolitan Asylum Hospitals and 3 in the Highgate Small-pox Hospital on Saturday last. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 3280, against 3083, 3052 and 3103 on the preceding three Saturdays; 461 new cases were admitted during the week, against 357 in each of the previous two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 139 and 148 in the preceding two weeks, declined again to 114 last week, and were 55 below the corrected average. The causes of 72, or 1·9 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bolton, Oldham, Bradford, Hull and in seven other smaller towns; the largest proportions of uncertified deaths were registered in Swansea, Birmingham, Liverpool, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 17·2 and 16·2 per 1000 in the preceding two weeks, further declined to 15·7 during the week ending Sept. 3rd, and was 4·1 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 12·7 in Dundee and 14·3 in Edinburgh to 17·0 in Glasgow and 20·6 in Perth. The 438 deaths in these towns included 26 which were referred to diarrhœa, 14 to scarlet fever, 10 to whooping-cough, 9 to measles, 4 to diphtheria, 4 to "fever," and not one to small-pox. In all, 67 deaths resulted from these principal zymotic diseases, against 81 and 75 in the preceding two weeks. These 67 deaths were equal to an annual rate of 2·4 per 1000, which was 2·6 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had been 27 and 34 in the preceding two weeks, declined again last week to 26, of which 16 occurred in Glasgow and 5 in Edinburgh. The deaths referred to scarlet fever, which had been 14 and 10 in the previous two weeks, rose again to 14 last week and included 9 in Glasgow and 2 in Leith. The [illegible] cases of whooping-cough were within 1 of the number in the preceding week, and included 9 in Glasgow. The deaths from measles, which had declined in the preceding [illegible] weeks from 23 to 12, further fell to 9 last week, of which 7 occurred in Glasgow and 2 in Edinburgh. The 4 fatal cases of diphtheria and the 4 of "fever" corresponded with the numbers recorded in the preceding week. The deaths referred to diseases of the respiratory organs in these towns, which had been 76 and 57 in the preceding two weeks, were again 57 last week, and were 25 below the number in the corresponding week of last year. The causes of 39, or nearly 9 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 19·5 and 24·0 per 1000 in the preceding two weeks, further rose to 26·3 during the week ending Sept. 3rd. During the first nine weeks of the current quarter the death-rate in the city averaged 23·0 per 1000 against 17·6 in London and 16·1 in Edinburgh. The 178 deaths in Dublin during the week under notice showed an increase of 15 upon the number in the preceding week, and included 19 which were referred to diarrhœa, 2 to scarlet fever, 2 to diphtheria, 2 to "fever," 1 to measles, and not one either to small-pox or whooping-cough. In all, 26 deaths resulted from these principal zymotic diseases, equal to an annual rate of 3·8 per 1000, the zymotic death-rate during the same period being 3·3 in London and 1·8 in Edinburgh. The fatal cases of diarrhœa, which had been 12 and 9 in the preceding two weeks, rose again to 19 during the week under notice. The deaths referred to different forms of "fever," which had been 2 in each of the preceding two weeks, were again 2 last week. The 2 fatal cases of scarlet fever and the 2 deaths from diphtheria exceeded the numbers in any recent week. The deaths referred to measles, which had steadily declined in the previous five weeks from 8 to 2, further fell to one last week, a smaller number than in any week since February last. The deaths registered in Dublin last week included 42 of infants under one year of age and 35 of persons aged upwards of sixty years; the deaths of infants showed a slight further increase, while those of elderly persons corresponded with the number in the preceding week. Six inquest cases and 6 deaths from violence were registered; and 56, or nearly a third, of the deaths occurred in public institutions. The causes of 24, or nearly 14 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

Miss Florence Nightingale and Indian Sanitation.

[illegible] Nightingale forwarded a letter to the late [illegible] State for India regarding the improvement of [illegible] whether anything could [illegible] the financial difficulties connected with [illegible] in villages. It will be remembered [illegible] sanitation in India occupied the [illegible] of the International Congress of [illegible] Miss Nightingale took it up in connexion with the representations of the Congress and the Bombay Sanitation Act of 1889. There is no doubt that reasonable sanitation is one of the first necessities of village life, but the poverty of the people and their religious and social prejudices are great obstacles to success. However, Miss Nightingale's letter with its enclosures has been forwarded for the consideration of the Governments of India and Bombay.

The Soldier's Ration.

We recently called attention to the revised edition of instructions on the messing of soldiers, showing how the Government ration, supplemented by the messing allowance deducted from the soldier's pay, could be turned to the best account. Satisfactory results were attained in the case of the 1st Battalion of the Northamptonshire Regiment and in that of three companies of Mounted Infantry encamped at Bourley. The experience so far obtained indicates that a better and more attractive food can be provided for the soldier at home stations than has heretofore been the case. The revised edition of the instructions on the messing of soldiers was issued to the troops at Aldershot under the direction of Sir Evelyn Wood, the general officer commanding.

Soldiers' Boots.

It will be remembered that a short time ago a French army surgeon, Dr. Alex. Colin, published the results of his investigations into the effects of marching upon soldiers in disciplined bodies and the prejudicial effects of the regular repetition of an indefinite number of small shocks on the body, for which the provision of an indiarubber heel for military boots was suggested. It is stated that this heel has been tested by several infantry regiments with satisfactory results. The comfortable and efficient shoeing of the soldier is unquestionably a very important item with regard to his efficiency at all times, especially on field service.

Army Medical Service.

Surgeon-Captain J. Will, lately returned from Hong Kong, has been ordered to Edinburgh for duty on the North British District Staff.

Movements of the Medical Staff.

Surgeon-Colonel Godwin, late Professor of Military Surgery at Netley, proceeds to India on a tour of Foreign Service. Surgeon-Colonel Welsh has been ordered from Cork to the Western District as Principal Medical Officer. Surgeon-Captain Allport is on leave of absence pending embarkation for India. Surgeon-Captain Hickson has proceeded from Dublin to Templemore; Surgeon-Captain Nicolls from Omagh to Enniskillen. Surgeon-Captain Hanley embarked for India on the 2nd inst. Surgeon-Captain Firth has been ordered from Dover to Netley for duty. Surgeon-Major Lamprey has joined at Hounslow for temporary duty.

Army Medical Reserve of Officers.

Surgeon-Lieutenant Henry Darvill Brook, 20th Middlesex (Artists) Rifle Volunteers, to be Surgeon-Lieutenant (dated Aug. 31st, 1892).

Naval Medical Service.

The following appointments have been made:—Fleet Surgeons: Anthony Gorham, M.D., to the *Wildfire*, additional, and George Kell to the *Rodney* (both dated Sept. 1st, 1892). In accordance with the provisions of Her Majesty's Order in Council of April 1st, 1881, Surgeon William Henry O'Meara has been placed on the Retired List of his rank (dated June 13th, 1892). Staff Surgeons: Samuel W. Vasey to the *Nelson* and William Tait, M.B., to the *Cleopatra* (both dated Sept. 14th, 1892). Surgeons: John L. Thomas to the *Invincible* and John E. Webb to the *Victoria*, additional, (both dated Sept. 6th, 1892).

Volunteer Corps.

Artillery: 2nd Devonshire (Western Division Royal Artillery): Surgeon-Lieutenant A. K. [illegible] to be Surgeon-Captain (dated Aug. 27th, 1892).—1st D[illegible] (Western Division Royal Artillery): Surgeon-Lieutenant J. W. [illegible], M.B., to be Surgeon-Captain (dated Aug. 27th, 1892).—*Rifles*: 2nd Volunteer Battalion, the Royal Welsh Fusiliers: Thomas Lewis Kendrick Davies, M.B., to be Surgeon-Lieutenant (dated Aug. 27th, 1892).—3rd Volunteer Battalion, the Queen's Own (Royal West Kent Regiment): Surgeon-Lieutenant A. A. [illegible] resigns his commission (dated Aug. 27th, 1892).—4th Volunteer Battalion, the Gordon Highlanders: [illegible], M.B., to be Surgeon-Lieutenant (dated Sept. 3rd, 1892).

Correspondence.

"Audi alteram partem."

'THE LANCET COMMISSION ON SANITATION IN RELATION TO THE LAW AND PRACTICE OF HOUSE-LETTING."

To the Editors of THE LANCET.

SIRS,—As the originator of the Eastbourne scheme of Sanitary House Registration, and chairman of the committee which has carried it out, I venture to reply to your correspondents. Until seeing Mr. Penford's letter I thought that we were the only authority which issued sanitary certificates; I shall be very willing to exchange notes with him, as we should each probably profit by the experience of the other. I can easily give Dr. Blake the statistics he asks for, though I fear they would not help anyone wishing to take a particular house. We have been issuing certificates for two years and a half, and the demand for them has constantly increased. Our standard of excellence is as high as modern sanitation enables us to make it, and in a later communication I can give a full description of the scheme, which I think will satisfy him that all certified houses are as sound as the most exacting tenant can wish. The services of the officials are given gratuitously; they advise upon the work necessary, and it is executed under their constant inspection; a fee, however, is charged to nonratepayers who may require a reinspection.

In conclusion, I may add that I have never seen Dr. Farquharson's Bill, that I drafted the scheme entirely on my own ideas, and am therefore more responsible for its defects than anyone else.

I am, Sirs, yours faithfully,
ARTHUR P. SHERWOOD, M.D., L.R.C.P.,
Chairman of Sanitary Committee, Eastbourne Corporation.
Aug. 30th, 1892.

SUB-PERITONEAL HYSTERECTOMY.

To the Editors of THE LANCET.

SIRS,—I see from your report of the proceedings of the Obstetrical Section at Nottingham that the sub-peritoneal method of treating the uterine stump was once more brought forward and discarded with the damning praise of "ideally the best." History repeats itself. The surgeons of the sixteenth century, who looked upon hot pitch as a necessity, undoubtedly used the same expression when Ambrose Paré (having previously ligatured his arteries) advocated the closure of amputation flaps. "Ideally the best," they said; "but having pitched our stumps we must go on in the open." The use of the serre-nœud in hysterectomy has been referred to as a relic of barbarism. I think, however, the term might be much more justly applied to the use of the elastic tourniquet. To the extra-peritonealists (and I am sorry, for the sake of our method, that under this head come nearly all the leaders of abdominal surgery in England)—to the extra-peritonealists, I say, my expression will seem exaggerated, perhaps foolish, but to my mind the use of the elastic ligature to the tender uterine stump is as barbarous as was the use of hot pitch by our ancestors.

To return to the operation. What are the special dangers generally credited to the sub-peritoneal method? Two: secondary hæmorrhage and sepsis. Why is there secondary hæmorrhage? "Because," say the extra-peritonealists, "of the contractions and rapid diminution in size of the ligatured stump." Ask the obstetricians, on the other hand, why secondary hæmorrhage is almost unknown after confinement, and they will tell you that it is on account of the contraction and rapid diminution in size of the empty uterus. "Quite so," say the extra-peritonealists; "but the fact remains that hæmorrhage does occur after sub-peritoneal hysterectomy, and not unfrequently." Granted, but the cause is not far to seek; your hæmorrhage proceeds from your ligature. Any fair surgical treatment—be it even total extirpation—the uterus will tolerate, but to be crushed for twenty to forty minutes in an elastic ligature is beyond even its powers of endurance. As a result of this unnecessary treatment, the stump is left deprived both of its nervous and muscular power, bruised and helpless. Under such circumstances it is a wonder that secondary hæmorrhage does not occur after every operation. Even in the amputation of an extremity, protected as the nerves and muscles are by thick skin and subcutaneous tissue, the use of an elastic ligature is apt to be followed by oozing; how much more then in the uterus, whose sole protection is the filmy peritoneum? It has been claimed for the elastic ligature that it gives confidence to the operator. Let the operator who requires it use it, but I venture to think that Mr. Knowsley Thornton and Mr. Lawson Tait have got beyond the stage of requiring a wall to their backs. Further, the danger against which it is supposed to guard does not exist. When once the broad ligament is tied off, and any superficial and evident vessels clipped, there is in cutting through the uterine tissue no more hæmorrhage—nay, there is much less—than in cutting through the tongue in Whitehead's operation; and as for the tongue so for the uterus, scissors are by far the best. In my earlier operations I looked for and found the uterine arteries; I now cut through the uterus at once and catch the arteries as they spout. The second danger credited to the operation is sepsis. And wherefrom sepsis? "From the exposed uterine mucous membrane," say the extra-peritonealists. The healthy appetite of the peritoneum, if properly treated, is capable of dealing with much more septic material than exists on the fragment of mucous membrane left behind. And if the operator wishes for greater security, let him cut out, burn, sterilise, or otherwise destroy his *bête noire*. "But," reply the extra-peritonealists (*minus* Mr. Tait, I hope), "although your arguments are plausible, sepsis does occur." Of course it does occur, and will occur so long as a ligature is used and a uterus and peritoneum bruised and enervated are left behind. Under such conditions it is only to be expected that in the struggle between peritoneum and septic material the former will have a greatly diminished chance.

In short, the two dangers credited to the sub-peritoneal method, secondary hæmorrhage and sepsis are due entirely to the use of the elastic ligature. If our leaders will give a trial to hysterectomy without the ligature I am certain that the skill and facility of resource which are their great characteristics will enable them to cope with any hæmorrhage, and once the ligature is abandoned the sub-peritoneal operation will become not only the "ideally" but the "really" best.

I apologise for again trespassing on your valuable space and for the discursiveness and lack of gravity of my letter; my excuse must be that to us at a distance the columns of THE LANCET take, as a means of communication with the bulk of the profession, the place of the learned societies.

I am, Sirs, your obedient servant,
H. M. MILTON.
Cairo, Aug. 21st, 1892.

BICYCLE ACCIDENTS.

To the Editors of THE LANCET.

SIRS,—In your second article on "Cycling and Vitality" you say, referring to accidents: "These increase daily, not from faults of the machines ridden—for, thanks to the skill, care and competency of the industry that turns out cycles there is the most admirable safety work in this direction that was ever produced—but from the faults of the riders themselves." It is desirable it should be recognised that by far the commonest single cause of the increased number of accidents—an increase altogether out of proportion to that of the votaries of cycling—is the more general adoption of the pneumatic tyre, the tendency of which to skid on wet ground is notorious, great as are the advantages which outweigh this fault. The surface of most roads slopes to the sides, so that in passing or overtaking another vehicle one rides along a sloping plane. In such a position the rear-driven safety tends to swerve, so that the driving-wheel slips down hill. To combat this the rider steers somewhat up and so further reduces the angle of pressure on the ground. Skidding of the steering wheel does not matter much, but slight slipping of the back wheel causes a fall. In many accidents of late the rider has been actually thrown against or under the met vehicle, for he *must* fall towards it. Cyclists unaccustomed to the pneumatic tyre do not recognise the necessity of allowing the machine gradually to approach the kerb and of not trying to correct the leeway when the ground is greasy, rather than run the risk of a skid. On a clear road a fall will teach caution, but if a heavy waggonette or dray be passing, the unfortunate cyclist may be deprived of an opportunity of profiting by experience.

I am, Sirs, yours faithfully,
W. F. MENZIES, M.D., M.R.C.P.
Rainhill, Aug. 21st, 1892.

owners and of public health that such a violation of known laws should be adequately punished.

Weeding the Workhouse.

The Revision Committee of the Birmingham Board of Guardians have just had a "call over" of the inmates. The number of paupers in the workhouse was: males, 539; females, 413. The venereal cases had been reduced considerably—namely, to three males and seven females. Children numbered 81, the total number being 1033. The ages were: under sixty, 8; between sixty and seventy, 183; between seventy and eighty, 180; between eighty and ninety, 25; over ninety, 3. One woman had been an inmate for fifty years. The inmates of the workhouse infirmary numbered 1237; there were 396 children at Marston Green Homes.

Sept. 6th.

LIVERPOOL.

(From our own Correspondent.)

Death from Hydrophobia.

After a long immunity from hydrophobia, due, no doubt, to the stringency with which the muzzling order was carried out through the country, a case of hydrophobia recently occurred here and unfortunately ended fatally. The deceased was a foreman brakesman in the employ of the London and North-Western Railway Company at Preston, living at St. Helens. On June 25th last he returned home with his face bandaged and said he had been bitten by a dog; he was very weak and fell down on the sofa. He informed his wife that he saw a dog on the line at Preston the previous night, and as a train was approaching called it to him. The dog came up at first quietly and then suddenly flew at him, biting a piece out of his chin. He remained at home for three weeks and then, feeling quite recovered resumed work. All went well until Aug. 20th, when he complained of a feeling of suffocation, and was quite unable to drink some brandy which his wife brought him. Dr. Casey of St. Helens was called in, and seeing the serious nature of the case accompanied the patient to the Royal Infirmary, where he was admitted on the 21st, under the care of Dr. Bradshaw, and was seen by several other members of the honorary staff. The case, while resembling most cases of hydrophobia, had its peculiarities, and it is satisfactory to know that Dr. Bradshaw proposes to publish a full report of the case. Much sympathy was felt for the deceased, who lost his own life in trying to save that of the dog. He leaves a widow and several children to mourn him.

The Importation of Cholera.

Referring to the notice in The Lancet of last week, p. 593, it is necessary to make one correction. Three of the cases were removed to the City Hospital at Parkhill; the fourth was inadvertently taken to the Liverpool Workhouse. It was, however, immediately diagnosed and promptly isolated. A second death took place in the Parkhill Hospital; the other cases are recovering. All four presented well-marked symptoms of true Asiatic cholera. No further cases have been reported, but the greatest vigilance is being exercised by all the local authorities. The weather here, moreover, has been such as to retard rather than favour the spread of the disease, and continues to be colder, with occasional showers.

A Port Sanitary Medical Officer.

The present outbreak of cholera will in all probability again raise a question which has been mooted before—viz., the appointment of a medical officer to the port. At present the medical officer of health for the city is also the port sanitary medical officer. It is obvious, however, that in such a city as Liverpool the duties of the medical officer of health must be sufficient to tax the powers of any one man, however energetic he may be, and that the medical duties attaching to a port such as this are of themselves amply sufficient for one person. The wonder is that such an appointment has not been made long ago. The fact is that the officers of the Customs have done their work so admirably that the medical officer has been promptly informed of any case requiring his attention. But the time has arrived when a change is desirable, and the present is a most favourable opportunity for effecting it.

Liverpool, Sept. 6th.

NORTHERN COUNTIES NOTES.

(From our own Correspondent.)

Sanitary Matters in the North of England.

Up to Sunday last our three principal ports were declared free from imported cholera, and I do not think that our sanitary authorities, so far, have encountered any other form of the disease. A break, however, has been made in this satisfactory state of things by the arrival in the Tyne late on Sunday evening last of the steamer *Elbe* on her way from Hamburg to Oporto, and the captain reported that the mate was so seriously ill from cholera that he had to put into the port for medical aid. Dr. Armstrong and Mr. Clark attended to the man, and he was removed to the Jarrow Floating Hospital, where he died early on Monday morning. Dr. Armstrong remained with him all night.

Arsenical Poisoning.

A case of poisoning by arsenic has taken place in our city since I last wrote. The verdict of the jury was that "the deceased died from poisoning by arsenic taken by misadventure." A Mr. Dove, a merchant and manufacturer of this city, sat down to his dinner with his wife and a visitor—a clergyman. The principal part of the meal consisted of a shoulder of lamb, which was placed in a pie-dish and baked in the oven. Now it was shown that this pie-dish had stood in the stable for some time and had in it a poisonous solution for killing weeds. After the meal Mr. Dove, his wife and the guest, the clergyman, were at once taken ill. Mr. James Smith, surgeon of this city, was called in and recognised that they were suffering from poison. Mr. Dove died after three days' illness; Mrs. Dove and the guest recovered. Mr. T. Hatfield Walker of this city, public analyst, stated that he found 200 grains of arsenic in the dish.

Plumbism.

An inquest was held last Saturday at Jarrow touching the death of a female lead worker aged thirty-four. It was shown that she had been employed at the white-lead works for about three months. She became ill about three weeks ago, and Mr. Norman certified that death was caused by convulsions due to lead poisoning. These unfortunate cases are, as I have notified from time to time, of frequent occurrence on the Tyne.

Stockton Hospital.

The annual meeting of the Stockton Hospital has been held, and the report showed that the number of patients treated during the year was 2369, being 243 in excess of last year. Of these 680 were in-patients. The report mentioned with approval the establishment of a branch of the Surgical Aid Society of London in Stockton and of the various efforts made in aid of the hospital by the amateur theatrical society, the friendly societies and the cycling demonstration.

A Cottage Hospital for Easingwold.

Through the munificence of Mr. J. Horatio Love of the Hawkhills, Easingwold, a new cottage hospital is being erected at the east end of the town. It will consist of large male and female wards, with proper accommodation for the matron and other hospital officials. The exterior, which will have a southern frontage, will be in the old English style.

Demonstration at Sunderland.

A very strange demonstration took place at Sunderland last Thursday. It arose from the action of the authorities in erecting a wooden building to be used, in case of necessity, as a cholera hospital. An immense and excited crowd formed in processional order, and, preceded by a yellow flag, marched to the Town Hall and besieged the health committee, which was then sitting, and remonstrated as to the situation of the hospital. As a result, the committee decided to remove the erection bodily and place it on a floating hopper in the river.

Friendly Societies and Medical Charities.

A very successful demonstration of the friendly societies of Sunderland was given on Sunday last and a useful collection was made in aid of the local medical charities. At South Shields also the trades societies turned out in large numbers and a collection was made from the vast crowd in aid of the Friendly Societies' Convalescent Home at Grange-over-Sands.

Testimonials to Medical Men.

Dr. Abrath, of the Hospital for Foreign Seamen at Sunder-

Health of Ireland.

During the June quarter the births amounted to 28,146, or 24·3 per 1000, and the deaths to 23,146, or 20·0 per 1000. The birth-rate was 0·4 under the average for the corresponding quarter of the past ten years, and there was an increase in the death-rate of 0·8. Measles was very fatal in Dublin and Belfast, which raised the zymotic death-rate above the average. The deaths from measles numbered 644, against 161 for the previous quarter; scarlet fever, 112; typhus fever, 70, against 21; whooping-cough, 298; and enteric fever, 139. Compared with the returns for the corresponding quarter of 1891, those of pauperism show a decrease of 825 in the average number of workhouse inmates on Saturdays during the year, and a decrease of 3547, or 5·5 per cent., in the average number of persons on out-door relief.

A Centenarian.

The registrar of Killybegs, Glenties Union, has recorded the death of a lady at the alleged age of 115. She resided all her life in his district, and for a number of years he states that she was regarded as a curiosity, and many strangers who visited the district took the opportunity of seeing her. Her husband died when aged 101. She was always very industrious, and the registrar saw her a few days before her death at her favourite occupation of carding wool. Her faculties remained unimpaired to the end.

Queen's College, Galway.

During the past session the students numbered 110, of whom 38 were in the Faculty of Medicine. The medical school has had in the past exceptional difficulties to contend with, and therefore it is gratifying to learn that the main obstacles to the progress of this important department of the college have been removed. A Bill to provide for the reconstitution of the County Galway Infirmary received the Royal Assent on June 27th last, and, under the provisions of this Act, in place of the infirmary a public general hospital has been established, available for patients residing in the county and city of Galway. The power of appointing the medical staff of the new hospital having been vested in the Local Government Board, they have appointed the professors of the Faculty of Medicine in the Queen's College. The hospital will be available as a clinical school for the medical students attending the college, and it would be difficult to overestimate the importance of the Act with regard to the prospects of the medical school in Galway. Five physicians and surgeons—presiding over the respective departments of anatomy, surgery, medicine, materia medica and obstetrics—belonging to the college will be attached to the hospital; and these gentlemen, highly to their credit, be it said, have generously offered to act without fee or reward.

Death under Chloroform.

A young girl named Love, residing near Blackrock, lately lost her life by inhaling chloroform for toothache. She went to bed, partly covered her head, and then inhaled the chloroform. She became unconscious after a time, but the inhalation continuing, she was found dead some hours subsequently.

Mr. Peter Shannon died recently at his residence, 91, Stephen's-green, Dublin, at an advanced age. Deceased was a Fellow of the Royal College of Surgeons, and a kind and estimable gentleman.

Mr. Albert Hengler having given at his circus two hospital benefit performances, they realised £79 5*s*. 6*d*., which he supplemented with a contribution of £25, and handed the amount to the Lord Mayor for distribution among the hospitals.

Mr. Henry Pentland, L.R.C.P.I. &c., of Mohill, has been appointed to the Commission of the Peace for the County of Leitrim.

Sept. 7th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Regimen in Chronic Bright's Disease.

THE question is often asked by the subject of Bright's disease, "What may I eat?" Nothing probably suits such cases so well as an exclusive milk diet, sparing as it does any excessive work for the diseased excretive organs and furnishing sufficient nourishment for the organism. But, apart from its occasional constipating properties, such a diet ends by disgusting the patient, and some safe variety is needed. According to Dr. Germain Sée, nitrogenous articles should be suppressed and replaced by chocolate, rice, macaroni, sheep's brains and sweetbread, with a little tea. In a case recently treated by him, where, in addition to the above dietary, the alternate administration of bromides of calcium and strontium was had recourse to, the daily quantity of albumen passed fell in twenty-four hours from twenty-three grammes to six grammes, and at the end of ten days this quantity further fell to one gramme and the anasarca and other symptoms had disappeared. According to Dr. Dujardin-Beaumetz the treatment of chronic Bright's disease requires to be in conformity with the following principles—viz., the facilitating of the vicarious elimination of the toxines formed in the body and the restriction of their production within the limits of health. This latter object can be attained by means of intestinal antisepsis and an appropriate diet. The former is best procured by the administration of benzonaphthol, which, being free from phenol and salicylic acid, is to be preferred to salol. As regards diet, the sufferer should be a strict vegetarian, the only purely animal food allowed being eggs, which Dr. Dujardin-Beaumetz does not consider hurtful. In support of this view, he reminds us that there is no analogy between egg albumen and the serum albumen found in morbid urine. He attaches no prognostic importance to the quantity of albumen passed daily. Our object should be to prevent uræmia. In the matter of starchy foods, according to him, rice is of most value, being three and a half times more nourishing than even potatoes. All fruits, especially stewed, and all green vegetables, excepting cabbage, are allowed. Where there is reason to suppose that the kidneys are not in an advanced state of degeneration gelatinous meats may be added to the diet. In this list are included calves' heads, sheep's trotters, *veau en gelée* and *poulet au riz*. Fresh fish is not deleterious, but the fish bought in Paris and in all towns situated far inland always contains large quantities of toxines, and must therefore be avoided.

Paris, Sept. 7th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Congress of the German Health Society.

THE German Public Health Society holds its annual congress this year at Würzburg on the 8th, 9th, 10th, and 11th inst.

The Berlin Vaccine Institute.

Since 1887 an institution for the supply of vaccine has existed in the central cattle market here. Its management lies in the hands of a police medical officer, assisted by another medical man. About 140 female calves are used by the institute every year, for the use of which it pays fifteen marks (shillings) a head. The amount of vaccine obtained in 1887 sufficed for 105,650 vaccinations, in 1888 for 289,278, in 1889 for 427,282, in 1890 for 504,546. The institute now supplies Berlin, its garrison and the whole province of Brandenburg, and exports large quantities even across the ocean.

Tight-lacing in a Factory.

During the recent intense heat many of the female hands in the ammunition factory at Spandau, near Berlin, fainted. It was ascertained that most of these cases were due, not to the heat alone, but also to tight lacing. The wearing of corsets during the hours of work is now forbidden on pain of fine.

Aluminium Flasks and Cooking Apparatus.

Careful experiments have been made lately at the instance of the Prussian War Office, with a view to ascertaining with scientific accuracy the various advantages and disadvantages of flasks and cooking apparatus made in aluminium. Dr. Plagge, who made the experiments, states that the taste of the beverages usually carried in field flasks is not in the least altered by aluminium if the flasks are well cleansed first. It was observed, however, that cognac, if kept long in the flasks, makes dark-brown stains on the inner surface owing to the tannic acid it contains. Such stains sometimes give the cognac a dirty-brown colour. It was also observed that when drinking water is kept for a length of time in such flasks white stains, consisting of aluminium salts, appear on the inner surface. They are easily removed, however, and are, like the above-mentioned brown stains, of no importance. The results of the experiments with cooking apparatus made in aluminium were extremely favourable.

A new kind of Closet.

A new method of dealing with excrements was demonstrated here lately by its inventor, a Russian captain named [illegible]. The idea is to separate the liquid from the solid excreta and to utilise the latter. The main feature of the system is a parabolically shaped metal plate, down which, when properly adjusted in a closet, the liquids run into a gutter and thence into the main pipe, while the solids fall from the upper curve of the plate into a vessel, in which they are mingled by means of an automatic apparatus with earth, lime, or charcoal and converted into manure or fuel.

Berlin, Sept. 6th.

Obituary.

SIR GEORGE H. B. MACLEOD, M.D. GLAS., F.R.C.S. EDIN.

SIR GEORGE H. B. MACLEOD's sudden death on Aug. 31st has caused great regret among the community at large. He was in fairly good health until the previous Sunday, when he was attacked by pain in the cardiac region, which continued more or less until he passed away at his residence, 10, Woodside-crescent, Glasgow. He was a son of the late Rev. Dr. Norman Macleod of St. Columba, Glasgow, and was born at Campsie in the year 1828. He had thus reached his sixty-fourth year. He took his degree of Doctor of Medicine at Glasgow University in 1853. As was the custom then, all the examinations were passed at one time. When the Crimean War broke out he offered his services to the Government, and in February of [illegible] was appointed senior surgeon of the civil hospital at Smyrna, and at a subsequent period, although the youngest officer, he was appointed interim superintendent. At this period, when engaged in active work, he communicated a series of articles to the *Edinburgh Medical Journal*, under the title, "Notes on the Surgery of the Crimean Wai, with remarks on Gunshot Wounds." His remarks were lucid, able and interesting, and attracted deserved attention. At the close of the Crimean War he commenced practice in Glasgow. Early in his career he became surgeon to the Royal Infirmary of Glasgow, and subsequently was appointed lecturer on surgery at Anderson's College. In these positions his reputation as a surgeon and as a lecturer grew apace, and on the transference of Sir Joseph Lister to Edinburgh in the year 1869 he was chosen Regius Professor of Surgery in Glasgow University. The choice of the Crown had nearly the unanimous approbation of the profession at home and abroad. After this honours crowded upon him. He was appointed Surgeon-in-Ordinary to Her Majesty in Scotland, Crown Member of the General Council of Medical Education and Registration, Associate Fellow of the College of Physicians of Philadelphia, Corresponding Member of the Academy of Medicine of Paris and the Surgical Society of Paris, and a Fellow of the Surgical Association of Germany. He was an Honorary Fellow of the Royal College of Surgeons of Dublin, and an LL.D. of St. Andrews; he was also a deputy-lieutenant and justice of the peace for Dumbartonshire. In the jubilee year he received the honour of knighthood. His contributions to surgical literature were various, the most important being "Outlines of Surgical Diagnosis," "Surgical Affections of the Œsophagus, Larynx and Pharynx," "Wounds of the Thorax," "Tracheotomy," "Ulceration," "Varix," "Wounds," in Cooper's Surgical Dictionary; "Surgical Affections of the Neck," in the [illegible] International Encyclopædia; "Clinical Teaching," in THE LANCET; "The Four Apostles of Surgery," in the *Glasgow Medical Journal*. As a teacher Sir George was a marked success. He had a wonderful [illegible] of language, and year by year his lectures [illegible] enthusiastic and increasing band of [illegible]. [illegible] he was invariably kind to the patients, [illegible] assistants, students and nurses, ready in his [illegible] to explain away difficulties, and a model [illegible] Burton says, "A step in advance, with the [illegible] on the difficult path." He was a neat and skilful operator, and his operations were based on a thorough and careful diagnosis. His interest in the patient did not end with the operation, for in major operations he personally superintended the dressing of the wounds, often doing a nurse's work himself, until all danger was over. His kindly words and his cheering presence visibly strengthened and materially aided recovery. He took a warm interest in local charitable institutions, and acted as treasurer and secretary for the West of Scotland of the British Medical Benevolent Fund. He was buried at Campsie, but the funeral service was conducted in Park Church by Principal Caird, and although no invitations were issued, for his relatives desired the funeral to be private, yet, as a mark of the respect in which he was held, the church was filled with mourners of both sexes, of all classes and conditions. The service was singularly impressive, and few of those who were present will forget how the great preacher's voice faltered when he spoke of his departed colleague, of his useful and honourable career and of his stainless life. As the mourners filed from the church it was difficult for those who knew him best to realise that one whose personality was so commanding and so unique had passed away for ever from our ken. Sir George Macleod was married in the year 1859 to Sophia, daughter of the late William Houldsworth. Lady Macleod and four sons and two daughters survive to mourn their sad bereavement. One of his sons, the Rev. W. H. Macleod, was recently appointed minister of the parish of Buchanan, in Stirlingshire.

WILLIAM WOOD, M.D., F.R.C.P. LOND.

THE late William Wood, M.D., F.R.C.P. Lond., was born on Sept. 16th, 1816. His father was medical officer in the 79th Light Infantry; his mother was the daughter of Sir John Ramsden, Bart. He entered as medical student at University College Hospital in 1834, and gained the Gold Medal for Anatomy and other distinctions. Here he formed friendships, which lasted throughout his life, with Erichsen, Brodie, Sewell, Jenner, Paget, Sieveking, Quain &c. Whilst at University College he worked a good deal with the famous Dr. Elliotson, and then went to study in Paris for some time. Whilst there the post of principal resident medical officer to the Bethlem Royal Hospital became vacant, and Dr. Wood was elected in May, 1845. During the tenure of his office there he adopted the humane treatment of the insane which had just been initiated by Conolly. In 1852 it was decided that there should be a complete change in the management of the hospital. Up to this time the staff had consisted of two visiting physicians and the resident medical officer. He therefore left and became part proprietor of a private asylum which had been established for some years at Kensington House. He resided there for a few years and then moved to 99, Harley-street, Cavendish-square, where he lived up till the time of his death. He soon became sole proprietor of Kensington House, carrying on at the same time a large consulting practice. In 1861 he was elected visiting physician to St. Luke's Hospital for the Insane, a post which he held for just thirty years, and on his resignation he was made consulting physician. In 1864 he was elected a Fellow of the Royal College of Physicians and served on several committees of that body.

In 1848 he became M.D. of St. Andrews. His life was devoted to the comfort and welfare of those entrusted to his care. He had always been a very active man both in mind and body, but during the last twelve months his health had been failing. At the beginning of this year he had an attack of pleurisy and pneumonia, from which he never completely recovered. About a month ago he went down as usual to Mendip, surrounded by his family, hoping that he might regain some strength, but about a fortnight ago he was again attacked with congestion of the lungs, and although for a time it was hoped that he might rally again, he somewhat suddenly passed away, without suffering, on Friday, Aug. 26th, at the age of nearly seventy-six years. He was a man of the kindest and most generous disposition and enjoyed the love and esteem of all who came in contact with him. His name was associated with a large number of charities, and he was ever ready to assist any one in trouble. In 1879 he was Vice-President of the Royal Medical and Chirurgical Society, and he was at one time President of the Medico-Psychological Association of Great Britain and Ire-

For some time he had been a member of the Parliamentary Committee of that Association and rendered valuable assistance during the passing of the last Lunacy Bill. He made several suggestions in a pamphlet which he wrote on Insanity and the Lunacy Laws, which were the result of his long experience and which received consideration at the hands of the framers of the Lunacy Act of 1890. He also wrote a small work on the plea of insanity, with statistics of the probable duration of life in the insane, and has contributed articles to THE LANCET, the *Medico-Chirurgical Review*, and other journals. He was engaged in many important legal cases in which the question of insanity was involved. The funeral took place on September 1st, at Putney Cemetery. There was a very large gathering of the profession and friends.

HENRY JOHN TYLDEN, M.A., M.D. OXON.

NOT long ago it was our sad duty to announce the death of Henry John Tylden, M.A., M.D. Oxon., M.R.C.P. Lond., who succumbed to an attack of typhoid fever. The disease at first appeared to be of an extremely mild form; in fact, Dr. Tylden must have been ill for some considerable time before he had the slightest suspicion that he was suffering from typhoid fever. Even after taking to bed the worst was not apprehended, but suddenly, as is often the case in this treacherous disease, he took a turn for the worse and rapidly sank. Henry John Tylden was born at Stamford Rectory, Kent, on December 14th, 1857. He was educated at Uppingham under the late Mr. Thring. Here he obtained school scholarships in 1870 and 1873. When he left in 1876 he was captain of the school and held one of the school exhibitions. On proceeding to Oxford he obtained the open scholarship at Exeter College. After a distinguished undergraduate career he obtained a first class both in moderations and in the final school. He continued in Oxford as a private tutor in history until 1881, when he determined to devote himself to the profession of medicine, entering as a student at St. Bartholomew's Hospital the following year. Here, again, he had a most distinguished career. He graduated in 1886 and was awarded the Brackenbury Scholarship. Continuing his studies in Vienna and in London, he was appointed casualty physician to St. Bartholomew's Hospital, and in 1888 he took the Murchison Scholarship in Clinical Medicine and became a Member of the Royal College of Physicians. Later he was appointed assistant physician to the City of London Hospital for Diseases of the Chest. Having decided to devote himself to the study of Pathology, he made a very careful analysis of the conditions met with in Pancreatic Diabetes, the results of which he gave to the Royal Medical and Chirurgical Society last winter. Continuing his pathological studies, he turned his attention to the subject of Typhoid Fever, and determined to investigate whether it was possible to produce artificial insusceptibility to this disease either by inoculation or other special treatment; he had already made several observations, when, unfortunately, he himself contracted typhoid fever. He maintained most strenuously that he could not possibly have taken it from his cultures, and that he believed he had contracted it in the usual fashion; whether this was the case or not it is now very difficult to say, but the sad fact remains that he was attacked, and with fatal results. Dr. Tylden was one of those thoroughly trained men, who with opportunity and health would have been capable of doing work of the very highest character; and the last article he wrote, on the "Bearing of Pathology on the Doctrine of Transmission of Acquired Characters," contains internal evidence of the broad view that he took of his subject and of the detailed and accurate character of his knowledge. All who came in contact with him felt that his was a mind of no ordinary power. Thoroughly trained and well stored with the most varied and accurate information, he was ever ready for any emergency, and with a fuller training in clinical observation and laboratory investigation he would doubtless have given to the profession scientific observations of the highest order. Those who knew him best entertained the highest opinion of him, whilst to those who had the opportunity of enjoying his friendship he was a man of singular honesty of purpose and goodness of disposition. Of a nervous temperament, he was not always ready to unfold at once and to everybody. As with all deep students, he often wished for quiet in which to think out what he was working at; but with those who enjoyed his confidence he was always ready to discuss in the fullest manner possible his own difficulties and to help in those with which they were contending. His death will be deeply regretted by all with whom he came in contact, either personally or professionally.

ALEX. W. MACFARLANE, M.D. GLAS., F.R.C.P. EDIN.

THE profession can ill spare from its ranks men of the type of Dr. Macfarlane, who at an early age has so recently gone from amongst us. Dr. Macfarlane, some five years ago, gave up an extensive but trying practice in Kilmarnock in order to come to London, where he hoped to have time to recruit and leasure to devote himself to literary and scientific work. For some years he rapidly improved in health. Latterly, however, especially during the last two or three months after an attack of influenza, he had been far from well; still, no serious symptoms sufficient to alarm even his professional friends had made their appearance until a day or two before he succumbed to an attack of kidney disease, which now appears to have been of considerable standing. The son of a Scottish minister, Alexander William Macfarlane was born in Cumberland. In his early school days he developed a remarkable capacity for accurate and conscientious work, and after a short apprenticeship with a doctor he decided to continue his studies. Passing his preliminary examination in Edinburgh and Glasgow, he commenced his medical studies in Edinburgh, and afterwards continued them in Glasgow, where he took a most distinguished position in many of his classes. His last year of undergraduate study he spent at the University of Edinburgh, where he took the degree of L.M., which at that time was a separate qualification; in 1867 he obtained the degree of M.B., C.M. (Glas.), graduating with distinction; and in 1872 he was commended for the thesis which he submitted to the Faculty for the M.D. degree. He immediately commenced to practise in Polmont, and was appointed medical officer of health for Polmont and Muiravonside. After spending seven years in Polmont, where he built up a lucrative practice, he went in 1874 to Kilmarnock, succeeding to Dr. Paxton's practice. Between the years 1874 and 1887 Dr. Macfarlane had one of the best country practices in Scotland; patients came from far and near to consult him; rich and poor alike had the greatest faith in his diagnosis and treatment; his patients became his firm friends; but the strain of this rapidly increasing practice, added to the anxiety and work involved in his appointment as surgeon to the Glasgow and South-Western Railway, consulting physician and (later) physician to the Kilmarnock Hospital and Infirmary, examiner in medicine and clinical medicine and in public health and medical jurisprudence in the University of Glasgow, and examiner in medical legal cases in North Ayrshire, soon rendered it imperative that he should obtain rest in some way or other. Eventually he decided to leave for London, where, however, many of his best patients still continued to consult him. His removal from Kilmarnock was looked upon by his Kilmarnock and Ayrshire friends as being little less than a public calamity, and the writer of this notice well remembers the scene at the banquet and presentation in his honour, at which the congratulations were so intimately mingled with regrets that it was difficult to determine whether the occasion was one for rejoicing or for sorrowing, but, from all, the expressions of regret and personal friendship were so spontaneous and hearty that everyone present could not but feel that Dr. Macfarlane had been more than medical adviser; he had been a trusted friend and a valued citizen. On his arrival in London, where he came apparently in order that his children might have educational opportunities unattainable in Kilmarnock, he devoted himself to study and to the arrangement of the clinical studies he had made during his early life, and with the rich material that he had at his command he was able to give to the profession one of the best treatises we have on the difficult subject of insomnia. He was well known at the Royal Medical and Chirurgical and the Clinical Societies, in the proceedings of both of which he took a lively interest; and his papers published in the medical journals indicate what wide experience and acute perception he brought to bear on his medical work. Shortly before his death he was engaged in experimental work on the action of various drugs on the cerebral circulation, but owing to an attack of influenza followed by considerable weakness he had to discontinue this research before he had done more than succeed in obtaining a method that would give him accurate results. Latterly his practice had been increasing by leaps and bounds, and for some time before his death it is to be feared that his experimental work was carried on at the expense of the leisure and rest that were so necessary for the continuance of his health. He was a man of great determination and steadfastness of purpose, and bringing an original and well-trained intellect to bear on his work he succeeded because no detail was too small to attend to and no labour too great for him to undertake in order that he might carry his work to a successful issue. His patients were immediately impressed with these qualities, whilst his genial manner, unblemished integrity and frank outspokenness, his kindliness of spirit, subtle wit and keen sense of humour gained for him the friendship not only of all classes of patients but also of his colleagues, all of whom will sympathise most deeply with his widow and children—two sons and two daughters—in the loss which they have sustained.

SURGEON-MAJOR STEPHEN MASSETT WEBB, M.D. EDIN.

WE regret to have to announce that *Surgeon-Major Stephen Massett Webb* of Kinterbury, Newton Abbott, and 3, Mutley Park-terrace, Mannamead, Plymouth, died at the latter-named residence on the evening of Aug. 3rd last, at the age of sixty-three. He was born in Hoxton-square on Jan. 10th, 1829, and was a son of William Webb, Esq., a scion of the ancient family of Webb of Odstock Manor, Wilts, by his second wife, daughter of Thomas Massett, Esq. He was younger brother to the Rev. William Webb, M.A., the accomplished rector of Byton, and to Francis C. Webb, M.D., F.R.C.P., of Woburn-place, Russell-square. He was educated at King's College School and at Stonehouse Grammar School, and, after reading for a short time with a private tutor, matriculated at the University of London. In the year 1846 he entered as a student at University College Hospital, where he soon became known as a man of rare ability and capacity for work; during his student life he was awarded three medals in anatomy and surgery, the gold medal for anatomy and physiology, and a sheaf of certificates of honour. In 1850 he was enrolled as a Member of the College of Surgeons and as a Licentiate of the Apothecaries' Society. After a short period passed as assistant to the late Mr. Bowmar of Leicester he proceeded to the University of Edinburgh, and in 1852 he graduated as a Doctor of Medicine. In 1854 he entered the army as an assistant surgeon in the 36th Foot; he was duly promoted surgeon and surgeon-major. His first commission bears date May 19th, 1854. On first joining his regiment, which was then stationed at Salford Barracks, he had for his senior medical officer the late Dr. James Jepp. Soon after receiving his commission Dr. Webb had orders to proceed to the Crimea. Embarking from Kingstown, he landed in the Crimea during the November of 1854, was attached to a battery of artillery, and was present at the siege of Sebastopol. Towards the end of the war he was for some time in charge of the Officers' Hospital at Scutari, and while there among his patients was numbered Lieutenant (now Sir Evelyn) Wood, whose mother, Lady Wood, presented Dr. Webb with his own portrait in water-colours, which she had painted in the corridor of the hospital, as a slight acknowledgment of her regard and of his professional skill. For his services during the campaign he received the Crimean medal, with the clasp for Sebastopol and the Turkish medal. On his return from the Crimea Dr. Webb was [illegible] in the West Indies, where yellow fever was raging. [illegible] from foreign service Dr. Webb exchanged [illegible] 2nd Battalion of the 23rd Foot (the Royal Welsh [illegible]) with which regiment he served for some years in [illegible] of which corps he continued until the [illegible] regimental system. In 1877, owing to ill-health, [illegible] from the service, and [illegible] Dr. [illegible] adviser. He was for many years a member of the Army and Navy Club. In addition to his professional attainments Dr. Webb was a highly accomplished man: he was an excellent musician, and possessed a cultivated taste in painting and in art generally. He married Jane, daughter of Mr. Henry Sewell, a companion who showed her deep devotion to him during many years of suffering from the gouty diathesis, and who only survived him for the short space of fourteen days. *Surgeon-Major Webb was buried at Plymouth on Aug. 8th.* Soon after his return from the Crimea an excellent medallion portrait was executed of him by Mr. C. B. Birch, A.R.A., the eminent sculptor, of which several casts are still in the possession of his family.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentleman, having passed the necessary examinations, and having conformed to the by-laws and regulations, has been admitted a *Member of the College*:—

T. H. Adams, L.S.A. Lond.

THE British Pharmaceutical Society is to hold its annual meeting next year in Nottingham.

DEVIZES COTTAGE HOSPITAL.—The funds of this hospital have profited to the extent of £103 as a result of the recent Jubilee Oddfellows' Fête held in the town.

THE Accrington Town Council has resolved to expend £713,000 in the purchase of the gas and water works of the town.

THE LOUGHBOROUGH SEWAGE DISPOSAL SCHEME has been sanctioned by the Local Government Board, and £20,000 is to be spent on carrying out the project.

THE MIDDLESEX HOSPITAL.—At the recent quarterly court of this hospital it was announced that the new children's ward is complete and that the £1000 promised by the executor of the late Mrs. Holms, to meet the cost of the addition, has been received.

HOSPITAL SUNDAY AND SATURDAY IN THE PROVINCES.—Eastbourne, Bournemouth, Swinton, Todmorden and other towns and districts have within the past few days been making, with more or less success, their annual collections in aid of the medical charities in their respective precincts. It is pleasant to see the hold which is being gradually obtained on the minds of the benevolent on behalf of these institutions.

SUNDERLAND INFIRMARY.—On Monday last the ceremony of opening the new wing of the infirmary was carried out by the Marchioness of Londonderry in the presence of a distinguished company. The block will contain a new ward, to be set apart for the reception of infectious cases which may arise in the hospital. Another portion will be used as a post-mortem room. The cost of the adjunct will be about £3000.

THE COLLEGE OF MEDICINE AT HONG KONG.—Under the skilful and energetic management of Mr. Cantlie, who will be remembered by many of our readers as an esteemed colleague on the medical staff of Charing-cross Hospital, the Hong Kong College of Medicine is able to show a worthy record of work done during the past year. On July [illegible] the prizes and diplomas granted by the council of the college were presented by Sir Wm. [illegible], the Governor. At the conclusion of the ceremony the dean, Mr. Cantlie, delivered an address in which he described the course of study pursued at the Chinese College, which, he said, is exactly similar to that adopted in the medical schools of Great Britain. The Alice Memorial Hospital, which has been placed at the disposal of the college by the London Missionary Society for the purposes of [illegible]

MEDICAL MAGISTRATE.—Mr. Thomas M. Dolan, M.D., has been placed on the Commission of the Peace for the Borough of Halifax.

SWINE FEVER appears to be very prevalent in the West Riding, and precautions against its spread are being taken at Ravensthorpe, Liversedge, Priestfield and other districts.

BEQUESTS AND DONATIONS.—The committee of the Cheyne Hospital for Sick and Incurable Children, Chelsea, have received a donation of 100 guineas to the funds of the hospital from Mr. William White, of Chelsea.

VACCINATION GRANTS.—Mr. F. M. D. Swallow, L.R.C.P., L.R.C.S. &c., of the Silkstone District of the Penistone Union, Yorkshire, has for the third time received the Government grant for efficient vaccination in his district. —Dr. Hugh Miller, Public Vaccinator for Birkenhead, has been awarded the Government grant for efficient vaccination in his district.

MESSAGE OF CONDOLENCE FROM THE QUEEN.—Her Majesty has, through Dr. Reid, telegraphed a message of condolence to the Rev. W. H. Macleod, son of Sir George Macleod, Surgeon-in-Ordinary to the Queen in Scotland, whose death has just been announced. The message runs as follows: "The Queen commands me to express to you her very deep regret at your father's death, and her sincere sympathy with your family in the great loss you have sustained."

PRESENTATIONS.—As an acknowledgment of the value of the services of Mr. T. Vincent Jackson, F.R.C.S., in conducting a course of instruction in ambulance work at Wolverhampton, the members of the Hospital Saturday Committee in connexion with the Wolverhampton General Hospital have presented that gentleman with a handsome carriage clock.—The officials connected with St. Saviour's Infirmary, East Dulwich, have presented the medical superintendent, Dr. H. E. Harris, with a handsome silver tea service, on the occasion of his approaching marriage.—Last week Dr. John Martin Savage was presented with a handsome marble timepiece, in recognition of his services as instructor to the St. John Ambulance Class of the Kimberley Colliery, near Nottingham.

WORTHING INFIRMARY.—The report of the committtee of management of this charity, presented to the subscribers and friends at the annual meeting held last week, gave a favourable account of the beneficent work effected in the institution during the past year. The treasurer's account, though it has not exhibited a falling off as compared with the finances of the last twelvemonth, would seem to be not particularly flattering to the generosity of the town. An urgent appeal is made to the benevolent to come to the aid of this useful charity.

THE SUNDERLAND INFIRMARY ISOLATION BLOCK.—The new isolation mortuary and post-mortem block, adjoining the Sunderland Infirmary, is now practically completed, and is to be opened by the Marchioness of Londonderry on Monday next. The block is the gift of Miss Forster of South Hetton, and provides facilities for the immediate isolation of patients in the event of an outbreak of infectious disease in the institution. The whole of the internal arrangements have been carefully planned and carried out, and the new block will form an important and valuable addition to the infirmary.

LONDON CORONERS.—An Order in Council appeared in last night's *Gazette* that the county of London shall be divided into eight districts for coroners' purposes, to be named respectively the Eastern Coroner's District, the North-eastern Coroner's District, the Central Coroner's District, the Western Coroner's District, the Penge Coroner's District, the Southern Coroner's District, the South-western Coroner's District and the South-eastern Coroner's District, and the said districts shall respectively comprise the several parishes and places, and have the boundaries prescribed and mentioned in that behalf in the schedule to the order. Further orders divide the county of Middlesex into three districts, and the counties of Kent and Hertfordshire into six districts each, for coroners' purposes.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ADAMS, Dr. CAMPBELL R., has been appointed Government Medical Officer and Magistrate for the Toledo District of British Honduras.

ATKEY, P. J., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

BANKS, A., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

BEDDIE, WM., M.B., C.M. Aberd., has been reappointed Medical Officer to the Fraserburgh Police.

BIDDLECOMBE, E. H., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Physician to the Royal United Hospital, Bath, vice Goodridge, resigned.

BLACKHAM, ROBERT JAMES, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., L.M. (Rotunda) has been appointed Assistant Medical Officer to the Ton and Bwllfa Collieries, Pentre, Rhondda Valley, South Wales.

BOWRING, W. A., L.R.C.P., M.R.C.S., has been reappointed Resident House Physician to St. Thomas's Hospital.

BURDEN, H., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

CAHILL, MARK FRANCIS, L.R.C.P., L.R.C.S. Irel., has been appointed Assistant Surgeon to the Children's Hospital, Dublin.

CLARK, FRANCIS W., M.R.C.S., L.R.C.P., D.P.H. Camb., has been appointed Temporary Assistant Medical Officer of Health to the Tyne Ports, with instructions to board every vessel coming from a suspected port, and examine the passengers and crew with a view to preventing the introduction of cholera into this country.

CRAVEN, R. M., F.R.C.S. Eng., F.R.C.S. Edin., has been reappointed Medical Officer of Health for the Combined Districts of Westmoreland, for three years.

DALGETTY, ARTHUR B., M.B., C.M. Aberd., has been appointed Medical Assistant to the Dundee Royal Lunatic Asylum.

DALZELL, A., L.R.C.P., M.R.C.S., has been reappointed Clinical Assistant for Diseases of the Throat to St. Thomas's Hospital.

DORMAN, M. R. P., M.A., M.B., B.C. Cantab., has been reappointed Clinical Assistant for Diseases of the Throat to St. Thomas's Hospital.

ELSOM, F. J., L.R.C.P. Edin., M.R.C.S., has been reappointed Medical Officer and Public Vaccinator to the Whitwell and Cuckney District of the Worksop Union.

FISHER, J. H., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

FOOKS, W. P., M.A., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., has been reappointed Non-resident House Physician to St. Thomas's Hospital.

FREDERICK, H. J., L.S.A., has been appointed Clinical Assistant fo Diseases of the Ear to St. Thomas's Hospital.

GUNN, MARCUS, M.A., F.R.C.S., has been appointed Honorar Ophthalmic Surgeon to the Cheyne Hospital for Sick and Incurabl Children, Chelsea.

HAYDON, T. H., B.A., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., has bee appointed Senior Obstetric House Physician to St. Thomas' Hospital.

HEYGATE, WM. H., M.R.C.S., L.S.A., has been appointed Medica Officer for the Southwick District of the Fareham Union, vic Langford, deceased.

KENNY, G. G., M.B. Glas., has been reappointed Medical Officer to th Waikato Hospital, Auckland, New Zealand.

LAW, R. R., B.A., M.B., B.C. Cantab., has been appointed Assistan House Surgeon to St. Thomas's Hospital.

LOVELL, C. P., M.A., M.B., B.Ch. Oxon., L.R.C.P., M.R.C.S., L.S.A. has been reappointed Clinical Assistant for Diseases of the Skin t St. Thomas's Hospital.

MAC KEITH, JOHN, M.B., C.M. Glas., has been appointed Medical Offic to the Third District of the Exeter Union, vice Bell, resigned.

MONAGHAN, T. J., L.R.C.P., L.R.C.S., D.P.H. Edin., D.S. Sc. Vic Univ., has been appointed Medical Officer of Health for th Borough of Accrington.

MORRIS, C. DWIGHT, L.R.C.P. Lond., M.R.C.S., L.S.A. Lond., has bee appointed Medical Officer of Health to the Staines Rural Sanitar District.

NEECH, JAS. T., L.R.C.P. Edin., L.F.P.S. Glasg., has been appoint Medical Officer of Health to the Atherton Local Board.

NORGATE, ROBERT H., M.R.C.S., L.R.C.P. Lond., has been appoint Second Assistant Medical Officer to the Kent County Asylu Barming Heath.

OLDMAN, C. E., M.D., M.R.C.S., has been appointed Medical Officer o Health to the Godstone Rural Sanitary District.

PARTINGTON, W., M.B., C.M. Glasg., has been appointed Medical Offic of Health for the Tunstall Urban Sanitary District, vice Cumin resigned.

PRICE, A. E., L.R.C.P., M.R.C.S., has been appointed Clinical Assista for Diseases of the Ear to St. Thomas's Hospital.

TIS, W. P., B.Sc. Lond., L.R.C.P., M.R.C.S., has been reappointed Clinical Assistant for Diseases of the Skin to St. Thomas's Hospital.

ARTH, HUGH, M.R.C.S., L.R.C.P., has been appointed Junior Resident Medical Officer and Registrar to the Evelina Hospital, vice A. H. Cheatle, resigned.

ALL, CHARLES, L.R.C.S., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed Resident Medical Officer to the Victoria Hospital, Lewes.

SON, H., B.A., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

LLACE, F. G., M.A., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., has been reappointed Non-resident House Physician to St. Thomas's Hospital.

WALLACE, C. S., L.R.C.P., M.R.C.S., has been appointed Junior Obstetric House Physician to St. Thomas's Hospital.

WATKINS-PITCHFORD, W., L.R.C.P., M.R.C.S., has been appointed Resident House Physician to St. Thomas's Hospital.

W ON, JOHN, L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of Health for Sunderland, vice Harris, resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

ATS HOSPITAL, Manchester.—Honorary Physician.

SEA HOSPITAL FOR WOMEN, Fulham-road, London, S.W.—Two Clinical Assistants wanted. The fee is £3 3s. for three months' course; A. L. Davis, Secretary.

TY ASYLUM, Prestwich, Manchester.—Assistant Medical Officer. Salary commences at £100 per annum, with prospect of an increase of £25 at end of first year, £25 at end of second year, and further increases. Furnished apartments, board, washing and attendance. Candidates must be unmarried. Applications to be made to the Superintendent.

A B, THE LANCET Office, 423, Strand, W.C.—Out-door Assistant to take charge of Dispensary in S.E. district. Salary over £[illegible] a year, and one day allowed off per week.

Y HILL PROVIDENT DISPENSARY.—Medical Officer, early in October; after election must reside within area of the Dispensary.

AL HOSPITAL, Birmingham.—The post of Pathologist. Salary £[illegible] per annum. Election takes place on 7th October. Duties to commence forthwith.

AL HOSPITAL, Birmingham.—House Physician. Salary £70 per annum, with residence, board and washing. Applications must be made before Oct. 1st to Howard J. Collins, House Governor.

AL HOSPITAL, Birmingham.—Surgical Casualty Officer. Salary £[illegible] per annum. Hours of attendance 9 A.M. to 1 P.M., Sundays excepted.

AL HOSPITAL, Nottingham.—Senior Resident Medical Officer, for two years. Salary £1[illegible] for the first year, rising £10 a year up to £150, with board, residence and washing.

GENERAL INFIRMARY, Northampton.—Assistant House Surgeon. Applicants must be unmarried and not under twenty-three years of age. Salary £80 per annum, with furnished apartments, board, attendance and washing.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—House Physician. Applications to be made before Sept. 20th. Salary £50 per annum, with board and lodging in the hospital.

NGDON COUNTY HOSPITAL.—House Surgeon. Salary £60 per annum, with board.

KIMBERLEY HOSPITAL, South Africa.—Senior House Surgeon. Salary £[illegible], with quarters.

LIVERPOOL HOSPITAL FOR CANCER.—Honorary Assistant Surgeon. Applications not later than Wednesday, Sept. 21st.

PARISH OF ST. LEONARD, Shoreditch.—Clinical Assistant for the Infirmary, Hoxton-street, N., for six months. Salary £40 per annum, with rations, furnished apartments, and washing in the Infirmary. (Apply to the Medical Officer, 204, Hoxton-street, N.)

AN AND STEPNEY SICK ASYLUM DISTRICT.—Dispenser. Salary £2 2s. per week; hours 10 till 6.

AL SURREY COUNTY HOSPITAL, Guildford.—Assistant House Surgeon. The appointment for six months without salary, but with board, washing and lodging in the Institution.

[illegible] HOSPITAL AND DISPENSARY.—House Surgeon, to commence duty first week in October. Salary £[illegible] per annum. Applications must be sent before Sept. [illegible] to the Secretary, [illegible].

MARY'S HOSPITAL MEDICAL SCHOOL.—Vacancy for a new Chair of [illegible]. Applications to be sent in on or before Monday, Oct. [illegible]. Salary £[illegible] per annum. Particulars of the Dean.

YORK CITY AND COUNTY INSTITUTION FOR TRAINED NURSES AND HOME HOSPITAL.—Lady Superintendent. Salary £[illegible] per annum, not more than forty years of age.

YORK [illegible] AND CITY LUNATIC ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £[illegible] per annum, with board, lodging and washing.

Births, Marriages and Deaths.

BIRTHS.

AUDLAND.—On Aug. 24th, at Brooklands, Wellingborough, the wife of W. E. Audland, L.R.C.P. Lond., M.R.C.S., of a daughter.

BEALE.—On Aug. 28th, at Addison-road, Kensington, the wife of E. Clifford Beale, M.B., F.R.C.P., of a son.

BEDDOW.—On Aug. 25th, at Rectory-road, Stoke Newington, the wife of Josiah Beddow, M.R.C.S., of a daughter.

PIDCOCK.—On Aug. 22nd, at Fitzjohn's-avenue, Hampstead, the wife of G. Douglas Pidcock, M.D., M.R.C.P. Lond., of a son.

RECKITT.—On Sept. 4th, at High-street, Boston, Lincolnshire, the wife of Edward B. Reckitt, L.R.C.P. Edin., of a daughter.

ROGERS.—On Sept. 1st, at York-place, Clifton, Bristol, the wife of Bertram Mitford Heron Rogers, M.B., B.Ch., of a daughter.

ROUSE.—On Aug. 31st, at Cheyne-gardens, S.W., the wife of Robert Rouse, Deputy Surgeon-General I.M.D., retired, of a son, stillborn.

MARRIAGES.

BEST - BEATTIE.—On Sept. 1st, at Christ Church, Dover, William Jas. Duncan Best, M.R.C.S., L.S.A. Lond., to Helen Henrietta Mary (D'Ettie), eldest daughter of the Rev. H. H. Beattie, LL.D., Chaplain to the Forces, Dover.

BROWN—COWARD.—On Aug. 24th, at the Parish Church, Bowdon, by the Ven. Archdeacon Gore, D.D., Vicar, and the Rev. C. A. Lomax, Rector of Heaton Mersey, Alfred Brown, M.A., M.D., of Higher Broughton, Manchester, son of the late William Brown, of Leighton, to Ethel, third daughter of Edward Coward, J.P., Heaton House, Heaton, Mersey, and Heatherlea, Bowdon. No cards.

BROWN—MATTHEWS.—On Aug. 31st, at St. Peter's, Wolverhampton, Herbert Henry Brown, M.D., B.S. Lond., F.R.C.S., of 22, Museum-street, Ipswich, to Florence M. de Hane, youngest daughter of Charles Matthews, of Wolverhampton.

COLLETT—NICOLLS.—On Sept. 3rd, at St. Augustine's Catholic Church, Weymouth, Henry Geo. Outram Collett, L.R.C.P. Lond., M.R.C.S., only son of the late Henry Collett, R.N., of Richmond, Surrey, to Frances Mary, eldest daughter of the late Archd. Dowdall Nicolls, Esq., of Tullyard, Trim, co. Meath.

COWELL—ROE.—On Sept. 1st, 1892, at St. Barnabas, Pimlico, by the Rev. C. O. Becker, Curate in Charge, George Cowell, of Cavendish-place, Cavendish-square, to Mary Margaret Elizabeth, widow of Dr. Hamilton Roe, of Harrington-gardens, and daughter of the late John Laurie, Esq., M.P.

CROW—MARSTON.—On Sept. 1st, at the Parish Church, Knowle, Daniel Crowe, M.B., B.Ch. Trin. Coll., Dub., son of Michael F. Crowe, J.P., Melfield, Blackrock, co. Dublin, to Clara, daughter of John Marston, Parkfield, Knowle, Warwickshire.

FAILES—WARD.—On Aug. 31st, at Terrington, St. Clement's, by the Rev. Watson Failes, Assistant Master in Westminster School, assisted by the Rev. M. Crowe, Vicar, Frederick George Failes, M.R.C.S. Eng., L.S.A., of Coonabarabran, New South Wales, son of the late Christopher Failes, of Fitton Hall, St. German's, Norfolk, to Frances Mary (Bella), elder daughter of David Ward, of Hamond Lodge, Terrington, St. Clement's, Norfolk.

LOCKWOOD—PARKER.—On Sept. 3rd, at St. Andrew's, Sharrow, by the Rev. Canon F. W. Goodwyn, Vicar of Rotherfield, Harry Lockwood, M.R.C.S., youngest son of the late Chas. Lockwood, Greno House, to Alice Jane, only daughter of the late Kenyon Parker.

VINTER—TOMS.—On Sept. 6th, at the Parish Church, Shepperton-on-Thames, by the Rev. A. E. Vinter, Principal of the Derby Training College, brother of the bridegroom, assisted by the Rev. F. W. Vinter, uncle of the bridegroom, and by the Rev. C. Littledale, Vicar, Sydney Garratt Vinter, of Torpoint, Devonport, formerly of the Perak Gov. Service, to Frances, youngest daughter of the late William Tucker Toms, of Chard, Somerset.

WILLEY—CARR.—On Aug. 31st, at St. Mark's Church, Sheffield, Charles Henry Willey, M.D., B.Sc., of Sharrow, Sheffield, to Ellen Ada Carr, youngest daughter of the late William Carr, of Ceylon House, Sheffield.

DEATHS.

BARKER.—On Aug. 22nd, at Mile-end-road, E., Joseph Collier Barker, L.K.Q.C.P. Irel., L.R.C.S., in his [illegible] year.

BARNES.—On Aug. 27th, at Ewell, Surrey, George Robinson Barnes, M.D., aged 61.

CHURCHILL.—On Sept. 2nd, at his residence, Hall Croft, Gosforth, Cumberland, John Churchill, M.R.C.S., and J.P. for Cumberland, aged 77.

McDONNELL.—On Aug. 27th, at Wishaw, James McDonnell, L.F.P.S. Glasg.

MORGAN.—On Sept. [illegible], at Knutsford, John E. Morgan, M.D.

PUGHE.—On Aug. 23rd, at Catherine-street, Liverpool, Edmund N. Pughe, M.B. Lond., F.R.C.S. Eng.

PYE.—On Sept. 2nd, Walter Pye, F.R.S.E., late of 4, Sackville-street, Piccadilly, aged 52.

ROGERS.—On Sept. 1st, at his residence, Cannon-place, Brighton, Robert James Rogers, M.R.C.S., L.S.A. Lond., deeply regretted.

SALZMANN.—On Aug. 31st, at [illegible], Montpelier-road, Brighton, Frederick Wm. Salzmann, M.R.C.S., in the [illegible] year of his age.

SPACKMAN.—On Sept. 2nd, at [illegible] House, Harpenden, Herts, Frederick Robert Spackman, M.D. Lond., in his 75th year.

WOOD.—On Aug. 27th, at The [illegible], [illegible], R.S.O., Somerset, William Wood, M.D., F.R.C.P., also of Harley-street, London, and the Priory, Roehampton, Consulting Physician to St. Luke's Hospital, aged [illegible].

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

TIN-LINED IRON PIPE.

MESSRS. E. WALKER AND CO of Heckmondwike, Yorks, the patentees of the tin-lined iron pipe, point out an amusing interpretation put upon our remarks in a leading article in which the substitution of tin or tin-lined piping for lead piping was considered. One drawback to the use of tin piping was, we stated, its tendency to "kink"—that is, to collapse with cracking when it is bent. This remark, the patentees inform us, led to the inquiry as to whether a tin pipe did not have a tendency to cause "kink cough" (whooping-cough). We also note that a contemporary represents us to say that tin tends to harden the water. On the contrary, it was distinctly stated that tin was absolutely proof against the solvent power of water, affecting it in no way whatever. In fact, in this respect tin is practically as inert as the noble metals gold, platinum or silver.

Aqua Pura.—Those in which silicated carbon, manganous carbon, magnetic iron spongy iron and Kieselguhr are used as filtering agents are best. Animal charcoal is an efficient filtering medium; but care must be taken to secure only the perfectly pure kind, which is entirely free from nitrogenous matter. According to Dr. Percy Frankland, coke is certain in effecting the removal of germs; it is certainly inexpensive, and may be thrown away and replaced by fresh material when it becomes foul. It is difficult, however, to rid coke entirely of tarry matter and grit, continued washing with clean water being required before this condition is attained. Filters in which the filtering medium cannot be cleansed or replaced are worse than useless; and it is further indispensable that the water be also efficiently aerated.

Dr. R. H. Lloyd.—We do not think that under the circumstances the letter in question should be looked upon in the light of an advertisement.

"THE CAPE FOR PHTHISIS."

To the Editors of THE LANCET.

SIRS,—I have pleasure in complying with Dr. Hay Reynolds's request by giving him some information as to the places at the Cape most suitable for phthisical patients.

Dr. Reynolds has made a clerical slip in saying that he is sending his patient to *winter* at the Cape; he doubtless means to escape from an English winter. She will arrive just in time for a long summer. This is important, as the western side of the Cape should be avoided in winter, owing to its dampness. I will confine myself to indicating places climatically suitable. The conditions of places as to fitness for invalids are often changing owing to the amenities of hotel life not being constant. During the process of development of a country like the Cape there is much restlessness, and a man who has established a comfortable hotel may become seized with a desire to grow rich with greater speed and move off to the Gold Fields, leaving perhaps an unsatisfactory successor. Dr. Reynolds's patient should therefore seek advice on this point at Cape Town or Port Elizabeth, and here I may say that the colonists are very courteous and kind. Travelling at the Cape is now easy and comfortable if it be confined to the railway routes, which are now extensive. As dryness of air and soil and altitude, with its mollifying influence on temperature and climate generally, are the conditions most favourable to the phthisical invalid, I would advise Dr. Reynolds's patient to go with as little delay as possible to a high-lying inland locality having a couple of ranges of mountains between it and the sea to intercept moisture; the beauties of such suburbs of Cape Town as Wynberg often tempt people to waste valuable time. The summer at the western side of the Cape is dry as regards rainfall, so that an invalid may spend some time at Ceres, a village 1500 ft. above sea level, pleasantly situated at the head of a very fine pass, and where, I believe, comfortable accommodation may be obtained; or Matjesfontein may be reached in a few hours—it is 2900 ft. above sea level, in the midst of a dry, arid, uninteresting country, but on this very account very suitable. The train on its way thither passes through some beautiful scenery, and when it winds its way up through the Hex river mountains the scenery approaches in grandeur that of the St. Gothard Railway. As to a permanent place of residence, I think Bloemfontein or Aliwal North would yield the best results. Both can be reached by rail from Cape Town, Port Elizabeth or East London. If the traveller should elect to go on by steamer to Port Elizabeth—perhaps, on the whole, the best route for a lady—then a good and very pleasant course to adopt would be to go on to Grahamstown (1750 ft. above sea level)—a town with agreeable and cultured society, a centre of clerical, legal and scholastic life, with pleasant environments and with much altogether to make colonial life enjoyable. There a sojourn might be made; but though I know *poitrinaires* who, driven from England, have found a suitable home there, the climate is scarcely dry enough for some invalids, the relative humidity being 72 per cent. and the rainfall about thirty inches. If found unsuitable a move to Bloemfontein or Aliwal North could be easily effected. Bloemfontein (4500 ft.) has a very dry air, the mean relative humidity being only 51 per cent., the mean maximum temperature for the year being 76° F., and for the four warmest months 85° F., and the mean minimum temperature for the year 46° F. The rainfall averages twenty-one inches, chiefly falling as thunder showers. Bloemfontein is the capital of the Orange Free State, and has much improved of late years as a place of residence. Aliwal North (4300 ft.), on the Orange River, has a similar climate to that of Bloemfontein. It has sulphur baths in close proximity. I have sent patients to both these places with excellent results. It is most desirable to have accurate records of the condition of patients sent to these health resorts, and in addition to other clinical records, such as history, symptoms, physical signs, temperature, &c, to note whether tubercle bacilli are present in the sputum, as there is much need of a collection of trustworthy facts as to the effect of these high and very dry inland climates on the undoubtedly phthisical. I have had some patients in whom the disease advanced during a residence at Davos, and who improved greatly on these inland plateaux; but this climatic treatment is by no means uniformly successful. Concerning the high day temperature, a colonist once aptly remarked, though the remark savours of the Emerald Isle, that the thermometer has nothing to do with making the heat. He meant that the sensation of heat bore no constant relation to that registered by the thermometer. A moderate temperature (say 75° F.) with much moisture in the air is depressing, whilst a temperature of 90° F. with very dry air may be borne with less discomfort. From my experience of the climates of the Riviera, of Italy and of the Cape I can verify this.

I am, Sirs, yours faithfully,

Folkestone, Sept. 5th, 1892. J. A. ROSS, M.D.

A DRAINAGE SYSTEM.

To the Editors of THE LANCET.

SIRS,—A new system of drainage is about to be introduced into our town, and I fear the result may not be altogether successful, as a great many of the houses are old and the majority, both new as well as old, are built with the least possible amount of attention to sanitary details. I shall therefore be greatly obliged if you can supply me with the following information, or tell me where I can obtain it:—1. A list of towns recently drained afresh where the new system has proved a failure, and the causes of failure. (Dr. Buchanan's ninth report to the Privy Council I have heard of.) 2. If houses with their internal arrangements in an insanitary condition be connected to the new system (which will include some of the old), is there not considerable danger of sewage contamination through those houses? 3. Can a rural sanitary authority compel owners or occupiers to have their properties put into complete sanitary order before allowing them to connect with the new system? (Section 21 of the Public Health Act seems to imply that this cannot be done.) 4. Can a rural sanitary authority have a set of by-laws relating to the details of the sanitary arrangements of new buildings. If so, where can an efficient set be obtained as a model?

I am, Sirs, yours truly,

Aug. 27th, 1892. B. N. T.

⁂ 1. We cannot find any mention of the subject in the Report of the Medical Officer to the Local Government Board mentioned by our correspondent. We doubt whether any such list as that asked for could be obtained without wading through the reports of inspections of towns made by the Board's officers through a series of years as occasion required.—2. This question is too vague to admit of a fair answer, as it neither specifies the kind of drainage already in use nor the new plan to be adopted. Houses drained by the water-carriage system, and either badly connected with the sewer or having leaky points and other sanitary defects, would necessarily be dangerous to health.—3. The rural sanitary authority has not the power to compel owners to put their properties into thorough sanitary repair *before* connexion with the sewer, unless a nuisance can be proved to exist. The rural sanitary authority can only insist that the *connexion with the sewer* is made to their satisfaction.—4. The power of making by-laws respecting new buildings is by Section 157 of the Public Health Act (1875) conferred on *the urban* sanitary authority alone; but by Section 16 of the Local Government (England and Wales) Act of 1888 the County Council is given the same power of making by-laws in relation to their county, or to any specified part thereof, as the council of a borough.—ED. L.

THE CAPE COLONY LEPROSY REPRESSION ACT.

have received from South Africa a letter addressed to us by Cartwright Reed on the above subject. This communication is long for us to publish it in full. But our correspondent concludes letter by giving a summary of its contents, which, we think, fairly conveys the chief points dealt with by him in his letter. This is summary:—

"(a) There is nothing that I am aware of before the public to explain the long delay between the passing of the Act and its proclamation in the *Gazette*. (b) That the information in the hands of the Colonial Government as to the probable extent to which leprosy exists in the territory is by no means reliable. (c) That there should be provided local detention houses—Robin Island Asylum being unreasonably far from where many sufferers live—in which the feeble could be properly segregated and cared for. (d) That special provision will have to be made for the removal of these cases by road and rail, *involving great precautions*, and provisions for disposal of contaminated dressings &c. or disinfecting appliances provided, before such matter can be disposed of through the carriage window or door. If all this and much more cannot be done, then abandon this one asylum scheme and provide area lazarettos. The cost of this proposal would, if anything, be less than that at present before us. Certainly, much bodily suffering would be avoided, the danger to the public health reduced to a minimum, and the parting between the sufferers and their relatives or friends shorn of its bitterest pangs. Lastly, would it not be wiser for 'boards of medical men'—say two—to examine the alleged cases, and then to certify for their removal or otherwise, following lines laid down by our lunacy laws. Your opinion upon this would be much valued, because in this colony many outlying districts are provided with young practitioners who have little experience in these matters."

With regard to the point upon which Dr. Cartwright Reed asks us to express an opinion, we have only to say that we do not imagine it to be possible that the Government of Cape Colony would permit any person to be treated as a leper, within the meaning of their Act, until his condition of disease had been examined and reported upon by more than one efficient medical authority.

[illegible]—The matter depends on the wording of the agreement or articles defining the partnership, on which a solicitor's advice should be taken.

[illegible]—Gowers' "Diseases of the Nervous System," vol. I.

Sydney R. Lillard (Hull) is thanked.

LEPROSY IN BRITISH COLUMBIA.

To the Editors of THE LANCET.

SIRS,—I enclose you a clipping from the *Daily World* of this town, dated Aug. 10th. Perhaps it may be of interest to your readers, and may account for the reappearance of leprosy in England. This is not the only case which has developed among the Chinese residents in this city; and as in packing the canned salmon Chinese labour is employed entirely, and the fish is brought in direct contact with any disease they may have, does not a danger exist of spreading contagion?

I am, Sirs, yours truly,
Vancouver, British Columbia, Aug. 15th, 1892. J. F. WELLS, M.D.

"Victoria, B.C.—*Lee Sing*, a resident of Chinatown, was found this afternoon suffering from leprosy. He says he worked in a Fraser river cannery last year, and had the disease then. His forehead and jaws are covered with round whitish swellings, which keep the imprint of the fingers like putty when they are pressed. The odour from the skin was very offensive. He has other symptoms of the disease. The city and provincial health authorities informed me that it is likely he will be sent to the Darcy Island lazaretto to-night or to-morrow. The case caused some excitement, and will probably lead to a general examination of all the Chinese in Chinatown."

Mr. A. E. Harris (Falmouth).—We consider it a good custom, not only with regard to cholera but for other diseases, such as scarlet fever, diphtheria and typhoid fever, to scald the milk on its reception in a household. It is not only the milk itself that has to be considered, though its digestibility is rather improved than otherwise by the process in that the caseine is split up and more finely divided, but it is sometimes adulterated by the addition of water, which cannot very well be [illegible]

PUBLIC VACCINATION AND SMALL-POX.

To the Editors of THE LANCET.

SIRS,—*À propos* of your remarks on this matter in THE LANCET of Aug. 27th, p. 495, and in corroboration of the same, I will give an incident that happened only yesterday to myself, whilst acting in my capacity of public vaccinator.

Amongst my cases that came up to be examined was a baby of about four months old, whose arm had taken in only two places. I told the mother it was not sufficiently protected—I always make four punctures—and I advised its being done again. She was most indignant, and said she should not have it done any more, for "she could go to a chemist and get it done for one shilling by a doctor who would only do it in two places." I am informed that it is the practice of some to do only one place, and that is called successful vaccination and certified as such, the mothers thinking that by paying their shilling or half-crown they can and do persuade the medical man to perform the operation in this fashion. The statistics of the small-pox hospitals distinctly prove that *the successful termination of a case is in direct proportion to the number of marks a patient can show.* I should be very sorry to condemn the whole profession; but that this does take place occasionally the above incident shows, and goes far to prove the truth of Mr. Horder's remarks.

I am, Sirs, yours very truly,
Aug. 26th, 1892. A PUBLIC VACCINATOR.

THE DEATH CERTIFICATE.

To the Editors of THE LANCET.

SIRS,—A letter in THE LANCET of Aug. 27th criticises the wording of death certificate forms. Let me point out a present danger. I am attending a case of heart disease. I have not seen the patient for three months, but the friends come to the surgery and get medicine for her. Should she die suddenly to-morrow the friends would no doubt ask me to visit the body and give a certificate. In such a case an average medical man would be much tempted to save the relatives the annoyance of an inquest, especially as he could truthfully fill up the certificate. This might sometimes give an opportunity for the concealment of crime, to prevent which is the object of death certificates. This particular danger would be avoided *if the forms read*: "I last saw h— *alive.*"

I am, Sirs, yours obediently,
Aug. 27th, 1892. G. P.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Messrs. Allen and Son, Marylebone; Mr. Aitchison, Wallsend-on-Tyne; Mr. Edouard Anguetil, Tavistock; Mr. Ashby-Belbin, Sheffield; Messrs. Armour and Co., London; Mr. Abbott, Exeter; Dr. Baker, York; Dr. Sydney Bontor, Herts; Mr. A. Brown, Switzerland; Messrs. Burgoyne and Co., London; Mr. Barford, Bracknell, Herts; Messrs. Bishop and Sons, London; Dr. Brock, London; Mr. Brohn, London; Mr. A. G. Bateman, London; Mr. Bourke, co. Tipperary; Mr. T. B. Browne, London; Mr. Blackwood, London; Mr. Braithwaite, Twickenham; Mr. Byrne, London; Dr. Croke, Beverley; Messrs. Clarke, Son and Platt, London; Mr. J. G. Campbell, Belfast; Messrs. Crossley and Co., London; Mr. Cocke, London; Mr. Clarke, London; Messrs. Canton and Co., London; Mr. Carruthers, Liverpool; Dr. Charteris, Glasgow; Mr. Cooke, Worcester; Mr. Carter, Masham; Mr. T. Cooke, London; Mr. Calvin, Manchester; M. Durand, Paris; Messrs. Eason and Son, Dublin; Dr. Jas. Edmunds, London; Dr. H. L. Evans, Reading; Mr. G. S. Farquharson, Southampton; Mr. F. Harry Fenwick, London; Mr. Gordon, Witheridge; Mr. Graham, Wolverhampton; Mr. Hornibrook, London; Dr. A. H. Hart, Surr; Mr. W. Huntingdon, N.B.; Mr. Heywood, Manchester; Messrs. [illegible] and Co., London; Mr. Harding, Oxford-street; Mr. A. W. Hewett, London; Dr. G. E. Hale, London; Dr. J. Herschell, London; Mr. Chas. Holmes, London; Mr. Ingle, Jersey; Mr. Jones, Melbourne; Mr. Jones, Macclesfield; Mr. R. B. Knowles, London; Dr. Kerr, Falls City, U.S.A.; Sir T. Longmore, Swanage; Dr. W. J. Little, Ryarsh; Messrs. Lea Bros., Philadelphia; Mr. W. Layton, Antwerp; Messrs. Lee and Nightingale, Liverpool; Mr. Lewis, Rainhill; Messrs. Moulton and Co., London; Mr. J. A. Marston, London; Messrs. Mitchell and Co., London; Mr. Martin, Manchester; Messrs. Macmillan and Co., London; Dr. Milton, Cairo; Dr. Maxwell, Woolwich; Mr. Ernest Miles, Broadmoor; Mr. Maclean, Glasgow; Mr. A. F. [illegible]

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Newspapers.—*Christian World, Fife Herald, Galignani's Messenger, La Liberté, Abergavenny Chronicle, Weekly Free Press, Transvaal Times and Observer, Overland China Mail, Tasmanian News, Bexhill Chronicle, West Wilts Herald, Windsor and Eton Express, Local Government Journal, Folkestone Express. Times of India, Liverpool Echo, Perthshire Courier, Food, Drink, and Drugs, Leeds Mercury, Aberdare Times, Orillia Packet, Pioneer Mail, Bristol Mercury, &c.*, have been received.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

The Lancet Office, Sept. 8th,

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	a.m
Sept. 2	29·70	S.W.	62	59	91	64	56	·04	
„ 3	29·68	S.W.	56	52	114	65	49	·14	
„ 4	30·05	N.E.	56	50	107	62	50	...	
„ 5	30·37	N.W.	51	48	97	63	46	—	
„ 6	30·32	S.W.	56	50	93	65	50	—	Clo
„ 7	30·11	W.	59	53	94	63	51	—	
„ 8	30·07	N.W.	53	49	100	61	46	·00	

Medical Diary for the ensuing We

Monday, September 12.

St. Bartholomew's Hospital.—Operations, 1.30 p.m., and on Tue Wednesday, Friday, and Saturday at the same hour.
Royal London Ophthalmic Hospital, Moorfields.—Opera daily at 10 a.m.
Royal Westminster Ophthalmic Hospital.—Operations, 1.30; and each day at the same hour.
Chelsea Hospital for Women.—Operations, 2.30 p.m.; Thursday,
Hospital for Women, Soho-square.—Operations, 2 p.m., an Thursday at the same hour.
Metropolitan Free Hospital.—Operations, 2 p.m.
Royal Orthopædic Hospital.—Operations, 2 p.m.
Central London Ophthalmic Hospital.—Operations, 2 p.m.; each day in the week at the same hour.
University College Hospital.—Ear and Throat Department, 9 Thursday, 9 a.m.

Tuesday, September 13.

King's College Hospital.—Operations, 2 p.m.; Fridays and Satu at the same hour.
Guy's Hospital.—Operations, 1.30 p.m., and on Friday at the same Ophthalmic Operations on Monday at 1.30 and Thursday at 2
St. Thomas's Hospital.—Ophthalmic Operations, 4 p.m.; Friday,
St. Mark's Hospital.—Operations, 2 p.m.
Cancer Hospital, Brompton.—Operations, 2 p.m.; Saturday, 2
Westminster Hospital.—Operations, 2 p.m.
West London Hospital.—Operations, 2.30 p.m.
St. Mary's Hospital.—Operations, 1.30 p.m. Consultations, Mo 2.30 p.m. Skin Department, Monday and Thursday, 9.30 *Throat Department, Tuesdays and Fridays, 1.30 p.m.* El therapeutics, same day, 2 p.m.

Wednesday, September 14.

National Orthopædic Hospital.—Operations, 10 a.m.
Middlesex Hospital.—Operations, 1.30 p.m.; Saturdays, 2 p.m. stetrical Operations, Thursdays, 2 p.m.
Charing-cross Hospital.—*Operations, 3 p.m.*, and on *Thursday* Friday at the same hour.
St. Thomas's Hospital.—Operations, 1.30 p.m.; Saturday, same ho
London Hospital.—Operations, 2 p.m.; *Thursday & Saturday*, same
St. Peter's Hospital, Covent-garden.—Operations, 2 p.m.
Samaritan Free Hospital for Women and Children.—Operat 2.30 p.m.
Great Northern Central Hospital.—Operations, 2 p.m.
University College Hospital.—Operations, 1.30 p.m.; Skin De ment, 1.45 p.m.; Saturday, 9.15 a.m.
Royal Free Hospital.—Operations, 2 p.m., and on Saturday.
Children's Hospital, Great Ormond-street.—Operations, 9.30 *Surgical Visits on Wednesday and Saturday at 9.15 a.m.*

Thursday, September 15.

St. George's Hospital.—Operations, 1 p.m. Surgical Consultat Wednesday, 1.30 p.m. Ophthalmic Operations, Friday, 1.30 p.
University College Hospital.—Operations, 2 p.m.; Ear and Th Department, 9 a.m.

Friday, September 16.

Royal South London Ophthalmic Hospital.—Operations, 2 p.

Saturday, September 17.

University College Hospital.—Operations, 2 p.m.; and Skin partment, 9.15 a.m.

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